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Verbalism and Affective Meaning for Blind, Severely Visually Impaired, and Normally Sighted Children

RICHARD M. DEMOTT, PH.D.

Dr. DeMott is associate superintendent of the Iowa Braille and Sight Saving School, Vinton.

The research of Cutsforth[1,2] and Harley[4] has helped focus attention upon the fact that many of the words used by blind youngsters denote visual experiences that they themselves have never had. This apparent inconsistency between vocabulary and sensory experience has been given the label "verbalism." The increasing awareness of this concept and of its presence in blind children[3] has led some educators to limit the vocabulary of the blind youngster to those words which have some basis in his sensory experience. This is done in the belief that nonsensory-based words are meaningless.

The Question of Meaning

☐ The question of meaning, however, is one that previous studies have only raised and not conclusively answered. Are verbalisms meaningless? If verbalisms do have meaning, are their meanings similar to the meanings they have for individuals who have had related sensory experiences? Does the word "dull," for example, communicate similar or very different meanings to two individuals, one with and one without vision?

Meaning and sensory experience

The necessity of grounding all concrete words directly in sensory experience is, in fact, questioned by Dokecki.[3] Using the theoretical framework of modern psycholinguistics, he argues that much of the meaning in words is derived from their association with other words. Thus, meaning can be obtained for a given word through its association with other words and need not stem alone from its association with the object it represents. He further argues that, for blind persons, meaning can be attained for words denoting visual qualities through word-word relationships.

While it is true that a reasoned approach would likely predict dissimilar meanings for blind as compared with sighted individuals for words denoting visual experience, a definitive answer requires investigation beyond the apparent. It was this heretofore elusive question of meaning that provided the primary motivation for the following research.

Purpose

☐ The purpose of the present study was to demonstrate the degree to which concrete words having visual connotations share similar meanings for individuals differing in visual experience. This study attempted to compare the affective meanings of words for individuals who differ in visual ability by comparing the meanings given to words which vary in concreteness and in visual connotations. A further purpose of the present study was to compare groupings or clusters of adjective scales resulting

This report is based on a study conducted by the author as a part of doctoral studies at Michigan State University, East Lansing. The chairman of his dissertation committee was Clessen J. Martin, Ph.D.

from factor analysis. Such a comparison reveals any similarities and differences in the mode of responding to the adjective scales of the semantic differential for groups differing in vision.

Method

Blind, severely visually impaired, and normally sighted subjects were compared for the meanings they assigned to individual words. Measurement of meanings for the various words or concepts was made possible by use of the semantic differential, an instrument first introduced by Osgood.[5] The semantic differential provides a method by which the subjects can rate any number of words or concepts on a series of scales which have as their extreme end-points adjective antonyms. By having the subjects rate each of several words over several scales (e.g., good-bad, hot-cold, heavy-light) in which extreme, moderate, and neutral choices are available, a type of semantic profile of affective meaning can be charted. Comparison of these affective meanings across groups differing in vision provides an insight into the roles of language and sensory experience in the acquisition of meaning.

Subjects—The Blind Sample

☐ A total of 143 blind, severely visually impaired, and normally sighted subjects participated in the present study. The blind sample consisted of 41 congenitally blind subjects in grades one through 12, who were blinded before the age of one year and who had vision no better than light perception. All were attending a residential school for the blind. The chronological ages of these subjects ranged from six years five months to 19 years two months.

The severely visually impaired sample

The severely visually impaired sample consisted of 41 subjects with visual acuity ranging from the ability to perceive movement of objects to 20/200 in the better eye with correction. They attended the same residential school as the blind subjects. When possible each subject was equated on one or more characteristics (grade, age, sex, and I.Q.) with a blind subject in the first sample. Chronological ages for the severely visually impaired sample ranged from seven years six months to 19 years seven months.

The sighted sample

The third sample consisted of 61 normally sighted subjects attending regular public school classes. Of these, 14 were attending a rural school, with the balance having been selected from an elementary, a junior high, and a senior high school in an urban setting.

Matching subjects

Each normally sighted subject was matched on age, grade, sex, and I.Q. with a blind or a severely visually impaired subject so that every blind and every severely visually impaired subject had at least one normally sighted, matched counterpart. With but few exceptions, every subject was matched so that age was within six months, grade was the same, sex was the same, and I.Q. was within ten points. Since intelligence tests had not been administered to all of the subjects in lower elementary grades and because of the age of some secondary level blind subjects, it was possible in some cases to match only three characteristics.

Materials

☐ In order to obtain verbalism scores, a collection of 39 objects and a vocabulary list consisting of the names of those objects were adapted from Harley.[4] The vocabulary list was used to obtain a measure of the

subjects' ability to define correctly words representing common objects. Objects representing the items in the vocabulary list were used to obtain a measure of the ability to identify. The actual objects were used whenever possible with models or toys being substituted when size or practicality dictated. A verbalism score was obtained by subtracting the number of objects correctly identified from the number of words correctly defined.

Semantic differential scale

For the purpose of obtaining a measure of meaning, a five-point semantic differential scale and 15 pairs of adjectives (slow, fast; long, short; weak, strong; hard, soft; sweet, bitter; kind, cruel; dull, sharp; good, bad; heavy, light; hot, cold; happy, sad; active, not active; large, small; excitable, calm; pretty, ugly) were used. The scale allowed for each of 15 words representing concepts to be judged on four levels of emphasis and a neutral level, "neither," for each pair of adjectives (e.g., *America:* very slow, slow, neither slow nor fast, fast, very fast).

The 15 concepts

Of the 15 concepts rated, four were abstract concepts *(America, fear, friend,* and *God),* four were selected because they elicited the highest verbalism scores from participating blind subjects *(bonnet, plow, rice,* and *squirrel);* the remaining items selected as concepts have visual or multisensory components *(city, clouds, fire, hippie, riot, slum,* and *soldier).*

Procedure

☐ All blind and severely visually impaired subjects and all normally sighted subjects through grade five were administered the 39 items of the vocabulary list individually. Any recognized meaning was credited if applicable. Specifically, the following were credited as correct responses: a synonym, a use, a correct attribute, a general classification to which the word belonged, an example which correctly used the word itself, or one or more correct descriptive features. Two individuals scored the responses and only those responses judged as correct by both individuals were accepted.

Object identification

Following the administration of the vocabulary list, each subject was asked to identify the 39 objects represented by the words in the list using a procedure adapted from Harley.[4] The objects were placed on tables and were handed to the subject one at a time for him to identify. To give each subject an equivalent opportunity to identify an item, a maximum of 15 seconds was given to identify each object. The four items which elicited the greatest number of verbalisms by subjects in the blind sample were selected for use in the next stage of the experiment.

Administering the semantic differential

The final stage of the experiment consisted of the administration of the semantic differential to all subjects, using a procedure adapted from Rybolt.[7] All subjects in grades one through four were administered the scales orally and individually. For subjects in grades five through 12, most administration was conducted in groups with the subjects responding by checking their responses. Those subjects who could not read some words appearing on the semantic differential, as determined by the administration of a vocabulary list, were administered it individually and orally.

Directions

The subjects were told that the experimenter was trying to find out

what certain words mean to different people. The subjects were presented with a word representing a concept and two possible meanings (adjectives) and asked to respond by indicating which of the meanings best fit the word. By modifying their choice with the adverbs "a little" or "very" and by providing for a neutral response of "neither," five responses were available for each adjective pair. The subjects were provided with at least two examples and were checked to see that they understood the procedure before presentation of the experimental material. This portion of the experiment was complete when all subjects had responded to each concept by checking one of the five alternatives for each of the 15 adjective pairs.

Results

☐ Three separate statistical procedures were used to determine group differences in responses to abstract and concrete concepts varying in their visual components. Factor analysis of scales was conducted to determine specific factor clusters appropriate as a test for main effect in the subsequent analysis of variance. For more direct comparison of the three groups, an analysis of variance was calculated in which vision, factors, and concepts were the main effects studied. A factor analysis of concepts was run for each of the vision groups to examine further any differences between groups. Concept clusters should provide supportive evidence for the results obtained from an analysis of variance by revealing similarities or differences in response groupings.

Results of the factor analysis for adjective scales indicated three major factor clusters for each of the three groups. Five scales loaded heaviest on each of the three factors which were labeled evaluation, potency, and activity. These results are shown in Table 1.

TABLE 1
Factor Loadings of 15 Scales—Second Varimax Rotation

	Blind Sample			*Severely Visually Impaired Sample*			*Normally Sighted Sample*		
Scales	I	II	III	I	II	III	I	II	III
good-bad	0.84	0.04	-0.02	0.82	-0.02	0.05	0.85	-0.00	-0.00
kind-cruel	0.77	0.06	-0.01	0.83	-0.04	0.02	0.85	-0.00	-0.03
happy-sad	0.76	-0.03	0.02	0.80	-0.04	0.06	0.81	-0.03	0.05
sweet-bitter	0.80	-0.03	-0.10	0.72	-0.14	-0.04	0.80	-0.08	0.04
pretty-ugly	0.79	-0.08	0.08	0.75	-0.10	0.09	0.79	-0.19	0.03
hard-soft	-0.40	0.45	0.15	-0.28	0.64	-0.06	-0.41	0.56	0.01
heavy-light	-0.13	0.70	0.06	-0.11	0.72	-0.01	-0.20	0.73	0.06
strong-weak	0.24	0.49	0.42	0.11	0.59	0.42	0.23	0.54	0.39
large-small	0.04	0.75	0.07	-0.08	0.66	0.11	-0.03	0.75	0.05
long-short	0.04	0.66	0.05	-0.00	0.54	0.04	0.04	0.67	0.02
hot-cold	-0.07	-0.09	0.61	0.05	-0.08	0.37	-0.00	-0.06	0.45
fast-slow	0.09	0.16	0.59	0.11	0.10	0.70	0.04	0.04	0.75
active-not active	-0.03	0.11	0.65	0.04	0.22	0.58	0.20	0.24	0.62
excitable-calm	-0.24	0.08	0.44	-0.30	-0.04	0.64	-0.17	0.08	0.65
sharp-dull	0.07	0.08	0.62	0.23	0.33	0.49	0.41	0.18	0.38
Proportions of total variance accounted for by each factor	0.23	0.13	0.13	0.22	0.15	0.12	0.26	0.15	0.12

Source	*df.*	*SS*	*MS*	*F*
Between Groups	2	87.892	43.95	1.2
Between Factors	2	2096.615	1048.31	54.1**
Between Concepts	14	19166.022	1369.00	122.2**
Subjects Within Groups	140	5182.003	37.01	
Factors x Concepts	28	37335.320	1333.40	136.6**
Groups x Factors	4	47.783	11.94	.6
Concepts x Groups	28	558.405	19.94	1.8*
Factors x Subjects Within Groups	280	5420.847	19.36	
Concepts x Subjects Within Groups	1960	21959.484	11.20	
Concepts x Factors x Groups	56	1189.258	21.24	2.2*
Factors x Concepts x Subjects Within Groups	3920	38265.511	9.76	
Total	6434	131309.140	20.41	

* Significant at .05 level; ** significant at .01 level.

TABLE 2
Analysis of Variance of Semantic Differential Performance for Blind, Severely Visually Impaired, and Normally Sighted

Since the same three factors were relatively consistent across the three groups and since they tended to load on the same scales for each, they were used as a main effect in the subsequent analysis of variance. A 3 x 3 x 15 analysis of variance was calculated using these factors, vision, and concepts as main effects. The results of this analysis are summarized in Table 2.

Analysis of between group differences failed to reach significance. The main effects for factors and for concepts each reached significance. Also, the three interaction effects resulting from concepts interacting with factors, from concepts interacting with groups, and from concepts interacting with both factors and groups together each reached significance beyond the .05 level. As revealed by the profile (see Figure 1) of the scores for the 15 concepts for each group, the greatest distance between groups existed for the concepts *city, friend,* and *squirrel* with the greatest similarity occurring for *fear, riot,* and *soldier.* While some concepts interacted differentially with groups to produce a significant concepts-by-groups interaction effect, the concepts did not differ enough between groups to indicate differences in meaning for subjects who differ in vision.

Concept clusters

A determination of how the concepts tended to cluster for each group was made via factor analysis. The results of the factor analysis indicate three major clusters for the blind and severely visually impaired groups, with a fourth cluster accounting for at least 10 percent of the total variance for the sighted group. Three factors and the concepts which make them up are nearly identical for all three groups. There is remarkable similarity in the way the three groups ascribed affective meanings to the concepts. Of the three major factors which emerged for the concepts, Factor I appeared to represent a positive affective cluster, Factor II a negative affective cluster, and Factor III an object-concrete cluster. A fourth factor reaching an acceptable level only for the normally sighted group was not clearly definable. Also of note is the fact that these clusters of concepts did not coincide with the original rationale used in their selection for any of the three groups. This is particularly noteworthy for the blind group where an effect resulting from the visual components

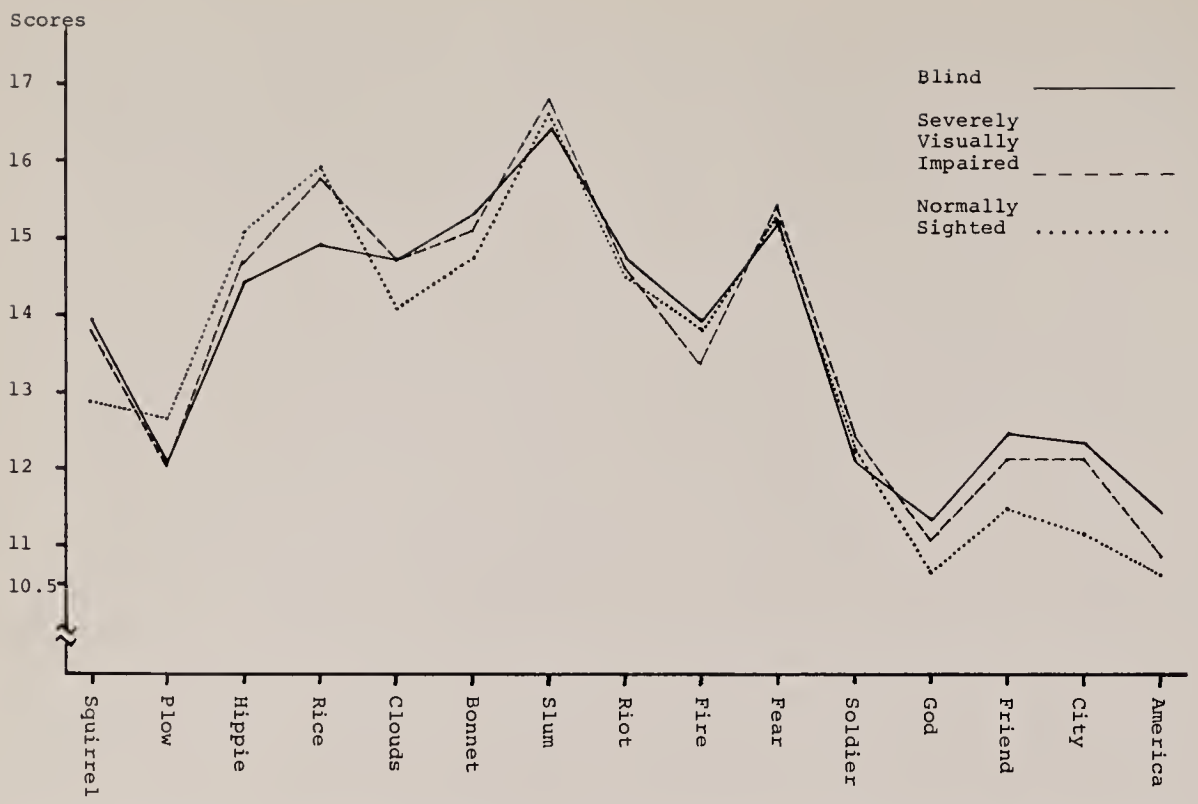


FIGURE 1
Mean Concept Scores

of the concepts would be expected to influence the meanings given to the concepts.

Discussion

☐ The major focus of the present study was on the amount and kind of meaning present in words for blind as compared with severely visually impaired and normally sighted school-aged children. The adjective scales used in the semantic differential, when factor analyzed, group into three main factors: evaluation, potency, and activity. These results are consistent with those obtained and reported by Osgood.[6] The results of the present study indicate that the blind school-aged subjects evaluated or measured concepts in much the same way as did the severely visually impaired and normally sighted subjects. No significant group differences were obtained upon comparing blind, severely visually impaired, and normally sighted subjects' performances on the semantic differential.

The interaction of factors with concepts

A significant main effect involving factors indicates that the three factors of evaluation, potency, and activity were indeed separate and unique entities. The significant result involves the interaction of factors with concepts. This result reveals the fact that the score or value for a given factor depended on the concept being evaluated. For example, the concept *friend* was rated high on the evaluation factor, near neutral in potency, and slightly above neutral in activity, whereas the concept *fire* was rated low on evaluation, above neutral on potency, and very high on the activity factor.

There was also an interaction effect between concepts and groups. By plotting the scores illustrated in Figure 1, it was possible to pull out those concepts making up the interaction. Seven concepts elicited the highest mean scores by the blind subjects and the lowest mean scores by the normally sighted subjects with the severely visually impaired subjects being intermediate *(America, bonnet, city, clouds, friend, God,* and *squirrel).*

The positions of mean scores for blind and sighted subjects were reversed, or nearly so, for four concepts *(hippie, plow, rice,* and *riot).*

Blind subjects tend toward neutral responses

At first the temptation is for the investigator to interpret the specific concepts that are involved or not involved. If one notes that a mean score of 15 is a neutral response, a re-examination of Figure 1 will reveal that, in the main, the spread in distance as well as relative position for concepts scores can be accounted for by a greater tendency for blind subjects to select more neutral responses. The scores of the sighted subjects tended to be the most extreme of the three groups. It appears from these results that normally sighted subjects, while not giving significantly different meanings to concepts, tend toward more extreme values when rating concepts on the semantic differential. As vision decreased, there was a corresponding increase in the tendency toward more neutral responses.

The exact role that vision played in these results is not clear. The blind subjects may have been more cautious or less confident, or it may be that vision added an increment of meaning which, while not significantly altering the total meaning of a concept, could be measured. While there was no supportive evidence, the former seems the more tenable. Clarification requires further investigation.

The concepts by factors-by-groups interaction appears to be a compounding of the concepts-by-factors and the concepts-by-groups interactions. This interaction also appears to be influenced by the tendency toward more neutral responses by the blind subjects.

Role of vision in meaning

From the evidence obtained through comparing affective meanings for blind, severely visually impaired, and normally sighted subjects on the semantic differential, it appears that degree of vision influences the tendency toward extreme responses, but it does not significantly affect the meanings given to concepts. As measured by the semantic differential, words, whether representing abstract concepts or concrete objects, have much the same meanings for blind, severely visually impaired, and normally sighted subjects. Factor analysis of concepts demonstrated that while concepts had unique meanings they still tended to cluster with other similar concepts. The failure of concepts having visual components to affect differentially individuals with varying amounts of vision provides support to a word-word basis for the acquisition of meaning.

The first consideration of importance is the similarity of the factors and their associated concepts between groups. The fact that concepts tended to cluster into similar factors for each of the groups supports the previous evidence that meanings for the various concepts remained constant across groups. Degree of vision does not appear to affect significantly the affective meanings which blind subjects gave concepts of concrete objects. This is so despite the fact that the majority of the blind subjects were unable to identify any of these objects and most normally sighted subjects identified all four.

Conclusions

☐ *Verbalism and meaning.* To the degree that the present study measured meaning, there appears to be no significant differences in the meaning

of general concepts as a function of visual experience. Meanings appear to derive from within the language. That is, the blind youngster, just as the sighted, learns many words and their meanings through context and by their use within the language. The criticism that blind youngsters use many words which, to them, are meaningless, is contradicted by the present study. Concepts appear to share very similar meanings for both blind and sighted. The present study supports the contention that, to the extent that meaning is communicable, it is a function of language and universal within that language.

Implications for educational practice. Since meanings for concepts are shared by both blind and normally sighted subjects, the role of language in meaning is clarified. Verbalisms are not meaningless; the words themselves have real and, as measured by their approximation to the norm, accurate meanings. Considerable meaning derives from within the language and verbal communication should be encouraged; experience in language is vitally necessary for the blind youngster just as it is for the sighted. In fact, language and communication are most essential to academic success. To bias the blind or visually impaired youngster toward discontinued use of those words which denote visual experience would be tantamount to experiential deprivation. It is doubtful that there is any word, be it a noun or an adverb, that has not had some shade of its meaning ultimately linked to some type of sensory experience. It is just such a concept of meaning which leads one to predict differences in meanings of concepts for blind and sighted youngsters. However, it is the function of language to communicate meaning. Experience and familiarity with many objects in a variety of settings should be pursued for its contribution to intellectual development and not as a substitute for language as is often implied by studies of verbalism. A more complete communication vehicle is opened for the blind by encouraging as wide a range in vocabulary as possible.

Implications for educational practice

Implications for further research. It is possible that adjective scales which are more visually relevant would reveal meanings for concepts which differ for the three groups studied. For example, adjective scales such as bright-dull or dark-light might produce group differences which reveal meanings most appropriate for normally sighted subjects.

Implications for further research

Finally, maturation of the sense of touch and the role it plays in identifying objects needs to be investigated. It may be that high verbalism scores, particularly among younger subjects, result from an inability of blind subjects to identify tactually those objects with which they are actually familiar. It is possible that only after an individual has experience with the tactile sense and only after considerable maturation will he be able to use touch adequately to recognize even somewhat familiar objects readily.

(Continued on page 25.)

The First Ten Months of the Rubella Living-Unit

WILLIAM S. DOLAN, M.ED.

Mr. Dolan was the project director of the Rubella Living-Unit, Walter E. Fernald State School, Waverley, Massachusetts. Since this article was written, the entire program, renamed the Deaf-Blind Program, has moved to Sunlight House, Scituate, Massachusetts, which is operated by the Massachusetts Association for the Blind. Mr. Dolan remains as director of the program.

As a result of the 1963-1965 rubella epidemic in the United States, many of the preschool children in residence at the Ransome E. Greene Blind Unit of the Walter E. Fernald State School in Waverley, Massachusetts, exhibited the effects of congenital rubella syndrome—deafness, blindness, and mental retardation. The ward staff, who provide the children with excellent medical and custodial care, were consequently faced with some unique problems. Because of the multiple sensory deprivations of these children, communication was difficult; and because of their perpetual hyperactivity and their seemingly fearless mobility, they were a hazard to themselves and to the others in the ward. To insure the safety of these children, they were confined to their beds for the major part of the day. While this policy of protection was successful, it was obvious that the children were regressing, especially in motor skills. Our problem, therefore, was to continue to insure safety, while at the same time providing sufficient stimulation to halt the observed regression and beginning instruction in the basic self-help skills. As a result of this need, the Rubella Living-Unit was established on January 26, 1970, as a part of the Greene Blind Unit.

Staff and Children

☐ The primary qualifications of the original living-unit staff, all female ward attendants, were that they enjoyed playing with small children and they thought these children were capable of learning. Of the present nine-member staff, two hold a master's degree, one in work with the deaf-blind and the other in peripatology. Other members have bachelor's degrees in varying fields, including English, history, sociology, and child development.

Originally there were six children, five staff members, and a program operating eight hours a day, five days a week. Evaluating the program at the end of March 1970, the staff recognized that there were signs of regression after each weekend. Therefore, four additional staff members were added and the program was expanded to 12 hours a day, seven days a week. At the time of this writing, there are 10 children in the project, the seventh having entered on April 15, the eighth on July 1, the ninth (a day student) on October 10, and the tenth on November 18, 1970.

Overall Objectives and Specific Goals

☐ The project has three objectives: 1) to improve the child's life style; 2) to help each child to reach his maximum potential; and 3) to determine the teaching techniques most effective with this type of child. To achieve these objectives, the following specific areas have been emphasized: 1) instructing the children in daily living skills—dressing, eating, bathing, toilet training, etc.; 2) exposing each child to a variety of experiences

both in and out of the institution; 3) improving the child's interaction with his peers and the living-unit staff; and 4) evaluating, from an observational standpoint, the educational potential of each child.

Eating

One of the first problems encountered in the effort to teach the children some of the basic learning skills, was in eating, a process which the children found quite complex. Further, each child presented a different problem: some refused to chew, others to hold finger foods; some would not eat soft food, some hard food; others disliked most liquids, especially milk; the majority knew nothing about eating utensils and all had difficulty in getting the food onto the utensil neatly. In approaching these problems, it was decided that the most crucial steps were chewing and swallowing, all else being ancillary skills. To encourage chewing, large wads of chewing gum or taffy were employed; perhaps the best results, however, were obtained by softening half a cracker in milk or tea and allowing the child to eat his way to the solid part.

Food deprivation

Since we have complete control over the child's eating habits, a modified food deprivation program was instituted. A child not functioning properly was sent from the table. The third time this happened he was deprived of the meal (no child missed more than two consecutive meals!). Food deprivation worked well as a technique—not because the children missed the meal, but rather because, as we came to realize, they missed the teacher's attention. They responded best to love, affection, and attention; using a reward of candy was ineffectual.

Toilet training

Toilet training was initiated at the discretion of each child's teacher. Several weeks prior to the start of training, the child's diaper was checked and recorded every half hour in order, hopefully, to determine whether or not there was a pattern. After a time, it was realized that the children were waiting to be put on the toilet. The major problem, however, was the child's being able to communicate this need to the staff or to locate the bathroom for himself. To date, we have had no consistent success with the children finding the bathroom unassisted, although they are beginning to communicate their need by slapping their thigh. When a child voids in his pants or on the floor, he is taken to the bathroom and shown the proper place for such activity. If he uses the toilet, he is rewarded with much affection and attention. Slow but steady progress is being made with this training.

Field Trips

☐ To expose the children to a greater variety of experiences, they are taken from the grounds as often as possible. Two types of field trips are used: individual trips, with one teacher and one child spending about six hours together, are arranged bi-weekly; group trips, with the entire staff and all of the children visiting city sites and points of interest (fresh and salt water beaches, Children's Museum, antique automobile museum, Drumlin Farm, stores, restaurants, ferry ride), are planned several times a month. We were sceptical about public acceptance of our taking the children out of the institution, but, as it turns out, most people simply look and go about their business. Several persons paused to ask questions, giving us an excellent opportunity to engage in public

education. The only real problems connected with these field trips are the amount of equipment that needs to be taken along (diapers, potty-chairs, food, etc.) and the hearing child being upset and disoriented by the large amount of ambient sound. The latter problem has resolved itself insofar as the children have become acclimated to being away from the institution.

Changes After Nine Months

☐ With the acquisition of new skills, the instructional needs of the children have changed. This has necessitated re-evaluation and changes in the program. In evaluating the program in October the staff decided the following: 1) the children are learning; 2) some children show signs of boredom; 3) each child has too much free time; 4) the program requires more structure and content; and 5) additional space is needed. To solve the critical space problem, three small (eight feet square) isolation rooms, each with its own toilet facilities, were assigned to the Rubella Unit to be used as classrooms. The staff removed the screening from the windows and doors; washed the windows, walls, and floors; painted the ceilings; acquired furniture; and decorated each room. With this problem solved, it was relatively easy to implement a new post-evaluation schedule (see Table 1). The basic skills emphasized in the present program include dressing, eating, toilet-training, teeth-brushing, mobility, gross motor activity (gym), swimming, walks, group socialization activity, auditory training, eye-hand coordination, and tactual discrimination.

TABLE 1
Typical One-Day Schedule Before and After the October Evaluation

Before		*After*	
7:00	Children wake up	7:00	Children wake up
7:00- 8:00	Breakfast, brush teeth	7:00- 8:00	Breakfast, brush teeth
8:00- 9:00	Bathing, dressing in ward	8:00- 9:00	Bathing, dressing in ward
9:00- 9:20	Free play	9:00-10:00	Gross motor activity in gym
9:20-11:20	Supervised activity	10:00-10:15	Free play
		10:15-11:00	Tactual discrimination
11:20-11:40	Wash for lunch	11:00-11:30	Walk outside, wash for lunch
11:40- 1:00	Lunch	11:30-12:30	Lunch
1:00- 1:15	Brush teeth	12:30- 1:30	Surprise time—group activity
1:15- 2:00	Nap	1:30- 2:00	Free time, rest
2:00- 4:30	Supervised activity	2:00- 2:45	Auditory training
		2:45- 3:30	Eye-hand coordination
4:30- 4:45	Wash for dinner	3:30- 4:00	Wash for dinner
4:45- 5:45	Dinner	4:00- 5:00	Dinner
		5:00- 5:45	Free play
5:45- 7:00	Prepare for bed	5:45- 7:00	Prepare for bed

Problems with the day student

The inclusion of a day student (as noted earlier) in this kind of residential program has raised many difficulties. The basic problem is one of follow-through and it manifests itself in every teaching area. For example, progress in eating is difficult, for home-cooked food is more appealing than institutional food. Further, food deprivation does not succeed because the child has access to the home refrigerator. Similar problems exist in toilet-training and in dressing skills.

Case Histories

☐ The following case histories present the problems of the original six children and their progress in the first 10 months of the project:

Child No. 1

Child No. 1, female, deaf-blind, retarded (rubella syndrome), six years old at the time of evaluation. At the beginning of the project, No. 1 had been a resident of the Greene Blind Unit for 25 months. She was highly medicated, self-abusive, and prone to temper tantrums. She neither walked nor crawled, her only means of mobility being to scoot along the floor on her bottom. She was not toilet-trained and refused to keep her clothes on. She was unfamiliar with eating utensils; she would not drink milk or chew food, but would only eat baby food or puree. At the end of November 1970, 10 months after the start of the project, No. 1 is an extremely mobile little girl who walks about constantly, negotiates stairs, and can travel from the classroom on the second floor out the main door of the building. She is no longer medicated and her self-abusive tendencies have practically disappeared. She is capable of dressing herself in the morning, except for buttons and shoe laces, and remains dressed during the day. She has developed an excellent appetite and handles a cup, plate, bowl, and spoon or fork well. At present she has difficulty finding the toilet but once there she will use it. She cooperates with the teacher in washing her hands and face and in brushing her teeth. The Perkins School for the Blind, Watertown, Massachusetts, has accepted her into their Deaf-Blind Program on a trial basis.

Child No. 2

Child No. 2, male, totally deaf and blind, retarded (rubella syndrome), five years old at the time of evaluation. This little boy had been in residence for 15 months prior to the initiation of the project and his entire day was occupied by resting in bed with his fingers in his eyes. He whined and ground his teeth constantly. He had absolutely no mobility skills; was totally indifferent about everything; refused personal contact with any staff member; lacked toilet-training; and possessed no eating or dressing skills. At the close of November 1970, No. 2's eating skills have improved tremendously and he chews, eats with a spoon, and drinks from a cup. He communicates his desire for food by touching his hand to his mouth. He moves about the room constantly; handles stairs well; and has developed an interest in tactually exploring his environment. Occasionally he touches his hand to his bottom when he needs to go to the bathroom. Although he needs help in dressing, he is making progress in this activity. He is beginning to gain much needed weight and to grow taller.

Child No. 3

Child No. 3, male, partially sighted, believed to be profoundly deaf, retarded (rubella syndrome), five years, two months old at the time of evaluation. At the beginning of the project, No. 3 had been in residence for 14 months, was quite frail (19 pounds), and had poor balance. He occupied most of his day by light reflecting, running in circles, and head banging. He used his vision poorly and refused to wear glasses. He was not toilet-trained, had no dressing skills, ate only baby food or puree, would not drink milk, and had a habit of biting people. In 10 months, this little boy has made tremendous progress. Both his mobility and balance have improved. At every opportunity he tries to get out of the room into the corridor where he likes to run. He no longer bites. His light-reflecting and head banging have decreased greatly. Because he wears his glasses and light reflects less, his visual functioning has improved. After a period of time, the staff has found that he has unilateral hearing. He knows how to manipulate the eating utensils, but, because he is a fussy eater and is reluctant to chew, it takes him a long time to finish his meal. He dresses himself, but, as yet, has made no progress in toilet-training.

Child No. 4

Child No. 4, female, partially sighted, profoundly deaf, retarded (rubella syndrome), five years, two months old at the time of evaluation. No. 4 had been at the Greene Blind Unit three months previous to the start of the Rubella Living-Unit. Apparently, this friendly little girl had useable vision, but, because the light reflected constantly and because she would not wear her glasses, her visual functioning was minimal. She was able to use a spoon, but disliked most foods; her mobility was quite good. She stayed dressed all day, but was unable to dress herself. She was not toilet-trained. No. 4 has made such progress that she, too, has been accepted in the Deaf-Blind Program at Perkins. She is completely toilet-trained, can dress herself, and has excellent eating skills. Her greatly improved mobility presents a problem for the staff, because she is frequently able to find her way out of the room. Her improved vision allows her to match colors, shapes, etc.; her extreme curiosity prompts her to explore all new things she meets. At present, her sign repertoire consists of approximately 15 signs with which she communicates. Her progress in the past 10 months has surpassed all expectations.

Child No. 5

Child No. 5, female, blind (retinoblastoma), retarded, four years, six months old at the time of evaluation. No. 5 had been in residence at the Greene Blind Unit for 20 months before the Rubella Living-Unit began. She was extremely self-abusive (sores on her face, kept in arm restraints, medicated), not cooperative with the staff, yet, at times, affectionate. She was the only child with speech, but could only say "cookie" and "dada." She ate solid food, but was unable to feed herself; she could hold a glass, but refused to drink milk. She was not toilet-trained, could not dress herself, and her mobility was poor. No. 5 has made very good progress during the past months particularly in communication. At present, she communicates most of her needs to the staff verbally, although sometimes her speech is echolalic. She is not medicated and is rarely self-abusive. Her mobility has improved; she cooperates with the teacher in dressing herself; and she enjoys personal contact with the staff and with her parents. She is able to feed herself and to hold a glass, and has developed food preferences. She is being toilet-trained and, at times, will say she has to "wee-wee."

Child No. 6

Child No. 6, male, blind (bilateral anophthalmia, massive mid-line defect, cleft palate), retarded, four years, 10 months old at the time of evaluation. No. 6 has been institutionalized his entire life. He was destructive, dangerous to others, and highly medicated. He wore only a monkey suit and opaque, colored leotards. Although he had a good appetite and could use a spoon, he refused to chew. He was constantly into his feces and untrained in the use of the toilet. He had no dressing skills and hated to go outdoors. While he was capable of walking, he would not take more than a few steps at a time. In many ways this little boy has made the most progress in the Living-Unit. He is no longer destructive and is not being given medication. His personality has changed completely: he laughs, smiles, teases the staff, and has made attempts to communicate his needs. His mobility is excellent and he constantly runs about the room exploring his environment; he climbs stairs, opens doors, etc. He has an excellent appetite and is able to use the various eating utensils with some degree of proficiency. He dresses himself and cooperates with the teacher both in brushing his teeth and in washing his hands and face. In toilet-training, he is doing very well; lately he has been finding his own way to the bathroom. He has begun to speak and uses a few words— "cracker," "water," and "lunch." In 10 months, this little boy has changed from an animal-like child to a happy, friendly one.

Program Evaluation

☐ In evaluating the first 10 months of the program, the progress of the children has greatly exceeded our expectations. Through the dedicated efforts of the staff of the Rubella Living-Unit, who taught mainly by intuition and frequently under less than adequate conditions, it has been shown that any multiply handicapped, deaf-blind, retarded child is able to learn if someone believes in the child's potential and gives enough of himself to the learning situation. With time, love, and affection, it is possible to break through to even the most unreachable child.

More counseling of parents is needed

Although the parents cooperated to the best of their ability, there was an unfortunate absence of any counseling services for these families. Because of the complexity of the handicap and its effects upon the family, supportive counseling assistance should be an important part of any such program of this kind.

Was Van Gogh Going Blind?

According to an article in the August 16, 1971, issue of the *Journal of the American Medical Association,* Vincent Van Gogh (1853-1890), the Post-Impressionist painter, may have committed suicide because he was going blind, not as a result of chronic depression. The author, Frederick W. Maire, M.D., of the State Home and Training School, Wheat Ridge, Colorado, believes that the artist was suffering from chronic glaucoma, which makes the sufferer see colored halos around lights and eventually leads to complete loss of vision. To compensate, the sufferer seeks brighter light in order to see more clearly.

Symptoms

☐ Van Gogh may have been exhibiting symptoms of the disease when he painted rainbow halos around lights in some of his later paintings such as "The Night Cafe." He may have moved to sunny southern France in order to see better. Another clue, according to Dr. Maire, is found in Van Gogh's self-portraits. He always painted the pupil of one eye slightly larger than the other. A dilated pupil is also a symptom of glaucoma. And, in his last few months, he left his usual, more colorful techniques and turned to darker pigments. The author believes that this was caused by a progressive loss of the ability to see intensities of light and color.

The final factor in the author's reasoning is the relative absence of obvious depression just before Van Gogh's death. The author theorizes that the artist's suicide was not caused by some general depression, but by the final recognition that he was losing his eyesight. The realization so overwhelmed him that he fell into a rapid and irreversible depression ending in suicide.

Experiential Methods in a Group Counseling Program With Blind Children

AL MANASTER
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There have been quite a few reports on the use of group therapy with children (e.g., Ginott[1]), play therapy (e.g., Rothschild[4]), action therapy (e.g., Grumbine[2]), etc. In "sensitivity" training, as well as in other group programs, experiential methods have been widely used. Thus, while use of the experiential method in group counseling is not really unusual and while counseling with the physically handicapped, though not a steady occurrence, has been used (e.g., Mardis, Manaster, Bonnici, and Pearson[3]), the combination of the two in a counseling program with visually handicapped children seems relatively unique.

In the summer of 1967, as a part of the summer mobility program for adolescents at the Illinois Visually Handicapped Institute, group counseling was made an integral part of the schedule. A total of 21 youngsters, 11 through 18 years of age, were enrolled in a six-week summer mobility program having the basic goals of enabling the youngsters to develop mobility skills, additional proficiency in activities of daily living, and an increased adjustment of a personal and social nature. As part of the third goal, the group was divided into three groups of seven students who met in 45-minute group counseling sessions three times a week for five weeks.

Using a New Approach

☐ The authors, who were the leaders of one of the three groups, felt that an attempt to go beyond the usual means of therapy with these young people, that is, just sitting and talking with them, was in order. We believed that through the use of experiential methods and exploration of the environment, in addition to "talk," the students would be freed from some of their inhibitions about telling their problems to adults and would gain a greater awareness of what they could do to alter their own situations.

Goals

Our goals in this program were mainly existential in nature, that is, we were not attempting "personality reorganization" or analysis of the emotional problems of the youngsters; we simply wanted to give them an opportunity to discuss and work through their own disturbing experiences and to offer them some new or different ideas about handling everyday problems. We hoped to do this not in an abstract way, but through their experiencing and then discussing their "gut" feelings. These children were relatively well integrated teenagers, although sadly lacking in living experiences. Though the majority were totally and congenitally blind, their problems were basically the "growing pains" common to most adolescents.

This article is based on a paper originally presented at the 27th Annual Meeting of the American Society of Group Psychotherapy and Psychodrama in New York City on March 30, 1968.

Reservations—"control"

While the other two counseling groups began meeting in the "orthodox" way (sitting around a table in a therapy room), we made use of experiential methods from the first. There were some reservations expressed by others in the institution, namely, that if we were to take a group of teenagers outside on the grass, especially for the first session, we could not maintain control of the group and, therefore, could not conduct a "beneficial" therapy session. We decided to take the chance. When we met as a group for the first time, we introduced ourselves by our first names and asked them to do the same. This was to reinforce our positions as group members and to get them to act spontaneously. It seemed to shock some of the children, as they were quite used to addressing and thinking of anyone older as a teacher or authority figure who had to be referred to as Mr., Mrs., or Dr. This ingrained idea did help us maintain "control" in the beginning session; in the following sessions, however, the control resulted from the children's interest and personal desire.

The First Meeting

☐ During the first meeting, one author (S.K.) put on a blindfold and wore it through the entire session as a means of furthering the experiential atmosphere, for herself as well as the students. She received help from several members of the group while trying to find a place to sit. The students showed a genuine curiosity about why one would want to do such a thing and informed her that she could not get the true feeling of blindness in this way, because the blindfold could easily be removed. They respected the effort, however, and began to trust our actions and our desire to help. Because we wanted to encourage as much feeling and interaction as possible, we asked them to hold hands and then bring their hands into the middle so that all hands could touch at once. One of the girls was quite frightened by this experience and drew back, but similar confessions of fright by the other members soon comforted her. The group then returned to asking about the blindfold and how it felt to be temporarily blind. The therapist (S.K.) responded quite openly about her feelings of discomfort and this led the group to discuss their feelings about their own blindness and how frightening it would be to regain their sight. (The usual and "acceptable" answer to such a question would be that it would be wonderful to be able to see.)

Restricted lives and experiences

We found that these children had been so restricted in exploring anything that was not a "necessary" experience, that they were terribly frightened by the unknown. Our ideas about the advantages of experiential therapy were reinforced by this knowledge. The youngsters were given the opportunity to feel the beard of the other therapist (A.M.) and then asked to describe it, a totally new experience for all of them and one that would normally be discouraged. All of the children seemed to share the frustrations of the first girl who tried to describe what she felt. This led to a general discussion of how hard it is to describe something which one has never seen or done and yet how important it is to be given the opportunity. This brought forth confessions of how

sheltered these youngsters had been because of their blindness. It concerned one girl greatly that parents and others quite often treat a blind child as if he were a pet or a "dumb" animal, but not as a person—cuddling and taking care of him but not letting him grow up.

A "Problem" Child

☐ One emotionally disturbed boy often monopolized the group through his acting up. We tried in an early session to cope with the situation experientially by having the boy physically break into a locked circle. The group made it clear that they did not want him out, but that they did want him to listen and take part as a *group member*. After re-entering, he held on very tightly thinking that in this way he could not be put on the outside again. The other members realized through the experience that one cannot shout his way into acceptance, a means often used by the blind child to gain attention and misconceived as a manifestation of interest or acceptance. The group at this point stopped discussing superficial subjects and began to make the sessions "work."

Using the experiential approach

It was necessary to use other experiential methods with our "problem" child to get him to realize that everyone in the group was genuinely concerned with his behavior and that they would not tolerate attention-getting statements and tantrums. The authors did not want to discourage his acting out, but wanted the group to deal with the situation. For example, when he made the statement "I'm going to be a beggar, because it is easy and no one would turn down a blind person," we asked him to beg from the other group members who were encouraged to show as must disgust as possible. Not only did the experience alter his desire to be a beggar, but it also exposed the others' feelings about the common stereotype of the blind person as one who is inadequate, helpless, and a pest.

The group's reaction

In several of the sessions there was an attempt on the part of the children to handle the problems of this one boy. One girl suggested to the group, however, that they were actually glad that this youngster was there, because they could hide behind him and consequently not have to face their own problems. She asked why the group did not take some sort of definitive or positive action. At this point, the group informed him that if he continued to be disruptive and did not show a genuine interest in being a group member, he would have to leave for good. He did, in fact, have to be taken out of the group during that session. However, since he showed such a great need to be a part of the group, he was readmitted under the condition that he not say a word for the remainder of the session. He was told that in the next session he would have to listen carefully and at the end summarize the interaction. To the amazement of everyone, including himself, he did this quite well. The others showed their appreciation, which pleased him so much that he did not prove to be a problem from that time on (a great achievement in itself). The other group members opened up considerably at this point, because earlier he had told the group that he would not hold in confidence what was being discussed and that he would tell anyone anything he pleased. After he realized that they were actually

trying to be his friends and that they thought enough of him to help him through his difficulties, he agreed to observe the group's rules of confidentiality.

Progress of the Group

☐ Though it may seem that most of the energy of the group was spent controlling and helping one member, this was not actually the case. Nearly every group member discovered problems and circumstances that were important to him and developed a good insight into the feelings of the other members. As the sessions progressed and the group dealt with the problems of being a blind teenager, several of them divulged personal problems and feelings and asked for the opinions and help of the other members. These individuals stated in the final session that they felt much better equipped to handle their own problems as a result of their involvement with the group.

Some of the exercises

We encouraged the youngsters to sit with their shoes off, feel the grass with their feet and then describe it; we had them do some role-playing; we helped them do some alter-ego exercises; we had them shout and then strike out at each other to see how it felt to release anger physically; and we had them sit very close to one another and hold hands or put their arms around one another to achieve a feeling of the relationship of their bodies to their surroundings. As mentioned before, these things are often discouraged or prohibited in society.

The last sessions

In two of the last sessions, all of the members of the group, including the leaders, were offered the freedom to say what they pleased about the progress of the group and about the members themselves. It gave the youngsters great pleasure to be able to say what they pleased about others, especially the leaders, without fear of repercussions. We found that they were aware that one leader (A.M.) was playing a stronger role and that the other (S.K.) was playing a listening or more passive role. The group discussed this quite thoroughly and decided that they appreciated both parts, the example of one who can provide overt direction *and* one who can show them that though remaining quiet, one can still be strong and secure.

Summary

☐ We have, in this paper, tried to describe some of the experiential techniques and methods used in a group counseling situation with blind adolescents. We have also tried to show that by using these methods, the group advanced a little further and a little faster than might otherwise have been the case. During the clinical services meeting, the other group leaders stated that their groups were often avoiding confrontations of their feelings, while we were able to state that members of our group sometimes overwhelmed us with their insights. Possibly this was because "our" technique kept the members alert and involved, showed them that we were interested and would let them do and say things that would normally have been forbidden, and let them know that we wanted to offer them a chance to experience new things. Because of this, their reactions and interactions were more spontaneous and "off guard."

Personal problems elicited

These children were almost all totally and congenitally blind and were fairly well-adjusted young adolescents. Many of the problems, questions,

and concerns they felt and expressed were those of any teenager. As is true with many adolescents, they were not overly motivated to discuss their deeper feelings and concerns with adults. Yet we felt that by the end of the 15 sessions these youngsters had revealed that they did have very definite problems which they were not afraid to look at and discuss in depth. The group brought forth and worked on deep personal problems which often involved family situations. They did not try to talk about things that would pacify the leaders, but discussed themes of great personal importance.

At the end of the final session, one of the girls threw her arms around one of the leaders (A.M.) and stated that she would really miss the group and what it had given her. All the rest of the group spontaneously joined in a big "group hug."

Role-playing

If we look at some of the processes involved in role playing as suggested by Doris Twitchell-Allen,[5] we find: 1) catharsis; 2) restructuring the situation, a) regarding the concept of self, and b) regarding the concept of others; and 3) practice for a future situation (p. 168). Our use of various experiential methods appears to have allowed for and encouraged these processes. This seems to be especially important with blind children, for we have found that a great majority of these youngsters have been deprived of many of the experiences that are taken for granted by non-handicapped children. As Rothschild[4] points out, "In many instances it will be predominantly a matter of encouraging the child to use resources which he has not been accustomed to use, either because of lack of opportunity or of the many possible inhibiting influences to which he may have been subjected. This may include support in helping the child to test and to experiment with his surroundings and thereby become able to develop a more comprehensive identity of his own and to relate in a secure manner to his environment" (p. 331).

Trainee comments and reactions

It was stated by many of the trainees, in both group and individual counseling, "They [the world] expect us to be good, helpless, blind children and sit and be nice." The opportunity to try new modes of behavior, to release anger or love, to examine, to experience and grow is often either denied them or offered with so many restraints and conditions as to be stultifying.

We suggest that this may be true not only of the visually handicapped, but of children (and adults) with other physical disabilities. It is our feeling that an experientially based form of group therapy, conducted in a rehabilitation setting and combining action and "talk," might prove to be most efficacious and stimulating in enhancing the growth and actualization of the individual. As was said by one girl in the final session, "I liked it, because I felt like a growing-up person."

(Continued on page 25.)

Evaluation of a Communication Device for Deaf-Blind Persons

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One of the major problems facing deaf-blind persons is their limited ability to communicate verbally with sighted-hearing people. From the early writings of Helen Keller to the poems of Robert Smithdas, the need for meaningful communication is underscored.

The National Center for Deaf-Blind Youths and Adults is presently evaluating an experimental instrument, developed by the General Electric Company, which it is hoped will provide an avenue for the tactual input of verbal communication to hearing-impaired individuals. The instrument, the Deaf-Blind Communication Aid, divides words spoken into the microphone into various sound frequencies and, through five circuits, activates finger-sized vibrators mounted in a small box. By placing his hand on these vibrators, the deaf-blind person is able to feel the vibrations produced by the spoken words.

Review of the Literature

☐ Communication with deaf and deaf-blind people through the use of various tactile and electronic aids is not a new endeavor. As early as 1924, Robert H. Gault reported studies conducted with an air tube in which the subject learned to recognize simple sentences spoken into one end of a tube by placing his palm over the other end. Although the individual involved had normal hearing, elaborate controls were initiated to exclude any sound.[4]

In another series of experiments, Gault used a seven-volt transmitter which was connected to a diaphragm vibrator that was held against the palm of the hand. He found continuous growth in sentence recognition by 17 deaf persons using this instrument.[3] He also compared the progress of lipreading both alone and in conjunction with a tactile finger vibrator. The vibrator proved to be helpful to a deaf individual.[2] Gault reported the use of a "Teletactor," a device which resembles the communication aid evaluated in the present study. He used deaf subjects and compared the use of vision to touch in locating accents in the spoken word. He found that the tactual sense contributed positively toward this end, supplementing visual input.[1] A natural progression from his earlier work is reflected in his later study of discrimination of temporal patterns. Comparing perception in audition, vision, and touch, Gault reported that touch ranked as the least effective of the three as a mode of discrimination both before and after training.[5]

The "Teletactor"

Using a "vocoder," an aid also similar to the one presently being examined, Wiesner found an improvement in the "inflection quality of

The "vocoder"

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the speech of deaf-mutes."[12] After reviewing the work of Wiesner, Geldard posed the question of the lack of studies pertaining to the stimuli received and used best by the skin.[6] He concluded that locus, intensity, and duration were enough to provide signals for accurate and speedy communication.[7] Moreover, it was found that the skin could receive mechanical and electrical messages.[8]

Experimenting with a 10-finger vocoder, Pickett tested the vowel and consonant discrimination ability of deaf subjects. He also used consonants that were difficult to lipread. Although his conclusions were guarded, he suggested that the vocoder could be used where speech is not normally received.[10] Furthermore, he found that the additional tactual information provided a more complete sensory input.[9]

Findings with the Communication Aid

Trevor D. Reader, a consultant to General Electric in the development of the aid here being evaluated, reported that his findings were encouraging. He suggested that research be initiated to evaluate the communication aid as a supplementary tool for use in speech therapy.[11]

Throughout the past, investigators have been cautiously optimistic about the various forms of tactile communication. It was the considered opinion of most of those whose experiments are reviewed above that the tactile approach would be most valuable as an adjunct to the remaining channels of communication; none recommended that it be used as a complete communication system in and of itself.

Method

☐ For the purpose of this evaluation, six deaf-blind people in training at the National Center were drilled daily by the same person for six 15-minute periods on 10 monosyllabic words selected by the National Center speech therapist. The words selected (boy, cat, chew, dog, faith, love, row, size, wish) contained 10 vowel and 17 consonant sounds.

Training and testing

At the end of the six training periods, the six subjects were given a test using the same 10 words presented in random order. This process of six drill periods and testing was repeated four times. Word order was newly randomized with each test. The trainer, a female, administered the four regular tests. At the time of the second and fourth tests, additional tests were administered by another person, a male, who was not involved with the training. This extra testing was done to check on the influences of pitch, pronunciation, and trainer on the subjects' ability to recognize the words. At the end of the four sequences of training and testing, each subject was fitted with "sound retardant" aural domes and given a final test to discover whether any of them were using residual hearing.

Scoring responses

Recognition of the word spoken was counted as a correct response in the tests. Because three of the subjects had no intelligible speech, a recognizable spelling of the word with the manual alphabet, a communication system used by the deaf-blind, was deemed a correct response. If the word spoken was recognized at the time of the first pronunciation, 10 points were given for the response; at the second pronunciation, five points. A score of 100 points was therefore possible if the client recognized each word the first time.

Subject	Tests 1	2	3	4	5	6	7
1	40	60	50	75	70	40	95
2	30	30	5	25	30	35	20
3	55	55	30	70	70	40	60
4	70	60	35	85	85	45	85
5	55	60	30	50	85	30	55
6	30	30	0	30	20	10	30
Total	280	295	150*	335	360	200**	345
Mean	46.7	49.2	25.0	55.8	60.0	33.3	57.5
S.D.	14.6	9.1	17.3	22.6	28.1	25.7	26.9

* Differences between trainer and non-trainer administered tests (Col. 3 vs. 1, 2) $p < .01$.
** Differences between trainer and non-trainer administered tests (Col. 6 vs. 4, 5) $p < .05$.

TABLE 1
Test Score Analysis

Note: Tests 1, 2, 4, and 5 were administered by the trainer; tests 3 and 6 by a non-trainer; test 7 involved the use of aural domes, a control for residual hearing.

In the third training period, analysis was begun for evaluation of any fatigue caused by the continual use of this tactile instrument. This was accomplished by tallying correct and incorrect responses upon first presentation of a new word during each training period. Total correct and incorrect responses were then divided into three-five-minute intervals, summed, and analyzed.

Results

☐ Because of the small number of clients involved and their uniqueness as individuals, it is thought that an analysis of each client, rather than of the whole group, would be the most useful approach. From the data presented in Table 1 and Figure 1, it is clear that four of the six people learned to recognize the 10 words on an above-chance level as measured by the periodic tests administered by the trainer.

Table 1 shows the results of the regular tests (Columns 1, 2, 4, and 5), the aural dome test (Column 7) administered by the trainer, and the extra tests (Columns 3 and 6) administered by the non-trainer. As indicated in this table, Subject No. 1 showed steady growth in recognition of the 10 words throughout the program. An examination of his medical and audiological reports reveal that he is a congenitally deaf male with no usable hearing when tested at all standard frequency ranges.

Subject No. 2, a non-achiever in this program, is thought by the National Center audiologist to have considerable residual hearing. The psychological examination report indicates that this 17-year-old male has many defects in the mastering of verbal materials, is impulsive and hyperactive, and that his cognitive functioning may indicate minimal brain damage. It is thought that it was because of these circumstances that he failed to recognize the 10 words in this study.

Subject No. 3 is a 57-year-old, adventitiously deaf male who has gradually lost his sight since childhood. He has good speech and receives communication via both the one-hand manual alphabet and print-on-the palm methods. The audiologist's report maintains that he has no residual hearing. Psychiatric reports state that the subject is psychoneurotic and is underproductive in most rehabilitation and work programs. He was moderately successful on the tests.

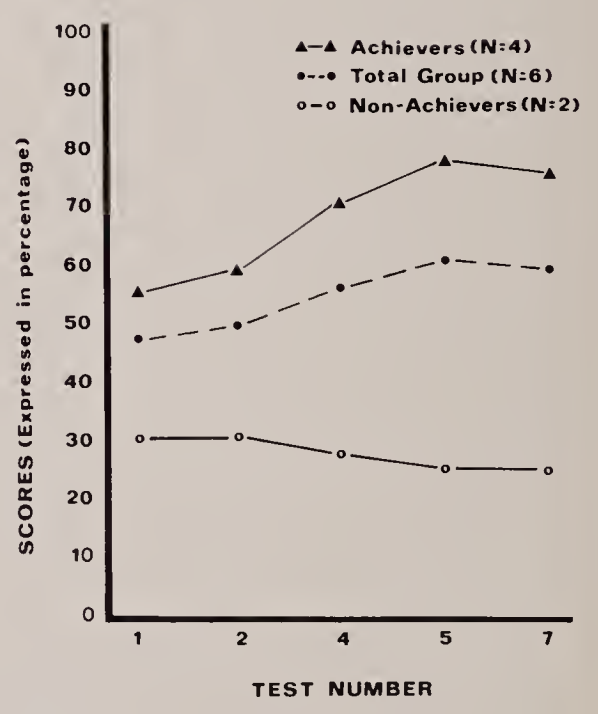


FIGURE 1
Graphic Presentation of Achievers, Non-Achievers, and Total Group Scores on Trainer Tests (1, 2, 4, and 5) and Aural Dome Test (7, control for residual hearing)

Subject No. 4, who clearly performed well in this program, has some residual hearing at the lower frequency levels (125, 250, and 500); however, results with the aural domes suggest that he has learned to recognize a high percentage of the 10 words tactually. The National Center speech therapist's report that this individual "has no knowledge of speech sounds" provides further evidence for this belief. According to his medical report, he is congenitally deaf.

Subject No. 4

Subject No. 5 is an adventitiously deaf and blind woman who is 37 years of age. Our audiologist was unable to obtain a definitive evaluation of her hearing status and it is suspected by several professionally trained personnel that she has considerable residual hearing. This is supported by the 30-point drop in score on the aural dome test.

Subject No. 5

The National Center psychologist reported that Subject No. 6 "presents the picture of a grossly disturbed person whose personality deficiencies interfere to a major degree with the effective use of intelligence. His behavior as well as his performance reflect major neurological disorders (hospital diagnosis: organic brain syndrome) which appear to make it close to impossible for him to apply his faculties in an ordered, sustained, and structured fashion." These professional observations clearly explain his inability to benefit from the Communication Aid. No audiological examination could be obtained.

Subject No. 6

Other Findings

☐ Further examination of Table 2 shows statistically significant differences between trainer and non-trainer tests, indicating that a host of variables are involved in shifting from a trainer to a non-trainer. That subjects tend to recognize more words presented by a non-trainer is reflected in the $p < .01$ found when non-trainer test 3 is compared with trainer tests 1 and 2 and the $p < .05$ found when non-trainer test 6 is compared to trainer tests 4 and 5.

Figure 1 depicts the gradual rise of means for the whole group (N=6) with a slight drop when the aural domes were used.

A more positive and realistic picture emerges when the two non-achievers (Subject No. 2 and 6) are represented separately. Clear, strong, and continuous achievement is indicated by the performance of the other four subjects.

The responses given in each of the three five-minute periods during

TABLE 2

Means of Correct and Incorrect Responses Compared During Three Five-Minute Intervals of a 15-Minute Training Period

	1st 5 Minutes		*2nd 5 Minutes*		*3rd 5 Minutes*	
Subject	*Cor.*	*Incor.*	*Cor.*	*Incor.*	*Cor.*	*Incor.*
1	17.2	7.5	26.5	8.7	19.7	8.5
2	3.2	19.6	2.2	24.0	2.4	25.6
3	18.0	19.4	18.0	18.0	16.5	18.8
4	17.9	8.7	16.0	10.0	15.1	10.9
5	10.1	6.5	10.1	8.9	8.9	8.9
6	3.0	7.0	2.5	15.0	1.5	18.0
Total	69.4	68.7	75.3	84.6	64.1	90.7
Mean	11.5	11.4*	12.5	14.1*	10.6	15.1*

* Note the gradual increase of incorrect responses.

the 15-minute sessions (Table 2) were analyzed as an indication of the effect of fatigue on the use of this instrument. The mean increase of incorrect responses, slight but continuous, may indicate that a fatigue factor is involved in receiving tactual stimulation via this instrument. Statistically significant evidence may have been forthcoming if training periods had been of longer duration.

Conclusions

☐ In light of the findings from this research, the Communication Aid may be a valuable adjunct to speech therapy. Throughout this study gross tactual messages such as word length, syllable and phrase cadence, and plosive qualities of voiced and non-voiced consonants were reported as definable by those who successfully learned to use the device. These tactual attributes of the aid may indeed offer valuable additional sensory cues when coupled with traditional therapy methods.

Additional studies needed

Due to the significant differences between trainer and non-trainer tests, it is suggested that additional studies be initiated to attempt to clarify and isolate the variables involved. These discrepancies support the conclusion that the Communication Aid would not be useful as a complete communication system at its present level of development.

Because four of the six clients clearly learned to recognize the 10 monosyllabic words in this project, a second phase of evaluation will be initiated. In this phase a speech therapist will teach two sets of matched survival language phrases—one with the Communication Aid, the other without. Periodic tests during the training period will be used for evaluation. Other studies ought to include a careful comparison of the performance of congenitally and adventitiously deaf-blind persons using this instrument.

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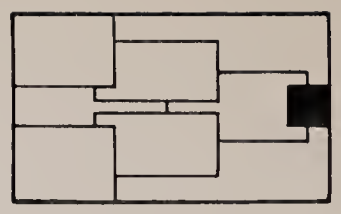
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Experiential Methods in Group Counseling—*Continued from page 19.*

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Editorial Notes



Beware the Rumor

For more than 40 years, good-hearted, generous Americans have been saving the red cellophane bands from cigarette packs to "buy" a dog guide for some poor blind person. No matter how many times we in work for the blind and those in the tobacco industry say it isn't so, the rumor reappears.

Now, we have another one: the metal rings from flip-top or snap-off beer and soda cans—Save them and trade them for a dog. Once again, it isn't so, but oh, what an appealing idea, especially in this day of ecology.

One Ohio school teacher, before her fourth graders started saving the rings, did at least write to us, saying that besides helping the blind, it would also help the environment. In addition to the Ohio teacher, we have heard the rumor from Brooklyn and the Bronx, New York, where the goal is to save 30 pounds of the rings.

How do the rumors start? Why do they persist? Why do they suddenly after months or even years reappear in Colorado or Ohio or New York?

Bill Gold, a columnist for the *Washington Post*, devoted a column to this phenomenon last July. His take-off point was the collection of cigarette packs to furnish a four-year-old with a kidney machine. When Gold called the man who had originally told him about the collection, the man assured him that it was quite legitimate, that he "knew it for a fact."

Gold then traced the story, back through the man's girl friend, to the girl friend's girl friend, to her mother, eventually to "a man who works for a tobacco company." Gold continued:

"If you push each person in the chain for the identity of the person from whom he got the story, after a while you come to a dead end. People who 'know for a fact' turn out to have been victimized by rumor spreaders."

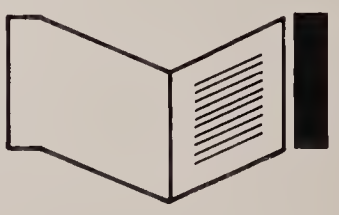
Gold wondered who originated the falsehoods. Why did he do it? What's in it for him? Gold concluded:

"The American people are known for their generosity and for their readiness to respond to pleas for help. Somewhere along this line, somebody deliberately set out to exploit these traits for reasons that are not yet clear. Ever since, the gullible among us have frequently been diverted from legitimate projects by these strangely persistent fairy tales. One has to wonder whether these stories have been circulating on their own since the original lie was told, or whether there is some other explanation for their hardihood."

Certainly the dog guide schools know how persistent the cigarette-band rumor has been. Now they—and all of us involved in blindness—face the new rumor. It is too bad—it disappoints the people who collect the bands or rings, and it misleads both blind and sighted persons about the availability of dog guides. After all, every blind person who wants and is able to use a dog, gets one, regardless of his financial situation.

And I must admit that I have certain reservations about even trying to refute the rumor. Too often the refutation is misunderstood and we are soon inundated with bands or rings. Well, at least, we can try. —P.S.S.

Current Literature



Print for the Visually Handicapped Reader. Papers and proceedings of a conference sponsored by the Library Association and the National Association for the Education of the Partially Sighted, held on October 28, 1970, at the Commonwealth Hall, London. The Library Association (7 Ridgmount Street, London WCIE 7AE, England), 1971, 64p. £0.75. The conference was divided into three sessions: (1) medical problems and designers of print; (2) producers of print; and (3) users of print. The texts of papers and the ensuing discussions are given.

The Thrice Shy: Cultural Accomodation to Blindness and Other Disasters in a

Mexican Community, by John L. Gwaltney. Columbia University Press (440 West 110th Street, New York, New York 10025), 1970, xii, 219p., illus. $6.95. Study of the village of San Pedro Yolox, in Oaxaca, Mexico, which has a large population of onchocercous blind.

Recommended Aids for the Partially Sighted, by Louise L. Sloan. 2nd ed. National Society for the Prevention of Blindness, Inc. (79 Madison Avenue, New York, New York 10016), 1971, 64p., illus. $2.00. The second section of this edition (pp. 35-64) is a pre-print of an article by Dr. Sloan and Dr. Stephen J. Ryan, Jr. entitled "A Nontechnical Explanation of Basic Optical Principles." It is scheduled to appear in *The International Ophthalmology Clinics,* Volume 11, No. 2, to be published by Little, Brown and Company, Inc.

The Development of a Program for Education of Blind Children in Ceylon, by Randall K. Harley. *Peabody Journal of Education* (George Peabody College for Teachers, Nashville, Tennessee 37203), Vol. 48, No. 4, July 1971, pp. 314-20. The author reports on the first year of a three-year project, begun in September 1967 when he was sent by the American Foundation for Overseas Blind, Inc., as a consultant to the Ceylonese government.

Braille Reading, by M. Williams. *The Teacher of the Blind* (Royal School for the Blind, Church Road North, Wavertree, Liverpool, L156TQ, England), Vol. 59, No. 3, April 1971, pp. 103-16. Report on a survey of reading rates at the secondary school level, comparing braille readers to sighted readers. The survey was conducted in England and Wales.

Report on Overseas Research, by M. J. Tobin. *The Teacher of the Blind* (see address above), Vol. 59, No. 3, April 1971, pp. 117-26 and No. 4, July 1971, pp. 154-70. The "overseas research" of the title is mostly that done in the United States, although Russia, Japan, Sweden, and other countries are included. The second section of the article contains a six-page bibliography.

Child Care Training at Condover, by Miss J. Farlow. *The Teacher of the Blind* (see address above), Vol. 59, No. 4, July 1971, pp. 149-54. Condover Hall in Shrewsbury, England, is a residential school for blind children with additional handicaps.

The Deaf Blind, by Arthur Sculthorpe. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6AA, England), Vol. 55, No. 652, August 1971, pp. 198-200. Text of a paper presented at a symposium on the deaf blind held by the North Regional Association for the Blind in England last February. The author, who is deaf-blind, is general secretary of the National Deaf-Blind Helpers' League.

Accreditation: Key to Survival and Financing of Government Rehabilitation Programs in the 70's, by Warren Thompson. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 W. Ogden Avenue, Chicago, Illinois 60612), Vol. 32, No. 10, October 1971, pp. 299-301. Text of a paper read at the annual meeting of the National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, May 1971, in Fort Lauderdale, Florida.

Lead Poisoning Can Cause Blindness, by Joseph J. Kerstein. *The Sight-Saving Review* (National Society for the Prevention of Blindness, Inc., 79 Madison Avenue, New York 10016), Vol. 41, No. 2, 1971, pp. 65-68. Permanent reduction of vision or complete blindness are possible results of severe lead poisoning. It is estimated that such poisoning affects 16,000 small children each year.

Spatial Coding in Normal, Autistic and Blind Children, by B. Hermelin and N. O'Connor. *Perceptual and Motor Skills* (University of Montana, Box 1441, Missoula, Montana 59801), Vol. 33, No. 1, August 1971, pp. 127-32. Report on an experiment testing spatial location using tactile stimulation. The subjects were 10 blind, 10 blindfolded, 10 sighted normal, 10 sighted autistic children, and a group of 10 blindfolded adults.

Pathways for the Blind, by James J. Brett. *The Conservationist* (New York State Conservation Department, State Campus, Albany, New York 12226), Vol. 25, June-July 1971, pp. 13-16. Illustrated story by the director of the Oerwood Nature Center, describing the design of the Oerwood Braille Trail in Pennsylvania.

Right and Left Handed Reading of Braille, by B. Hermelin and N. O'Connor. *Nature* (Macmillan Ltd., Little Essex St., London W.C.2, England), Vol. 231, June 18, 1971, p. 470. Brief description of a series of tests conducted with 14 blind children between the ages of 8 and 10. Speed and accuracy were scored for both the right and left hand in reading braille passages using the index or center fingers.

—M.M.R.

Additional Listings

Let's End Isolation, Administration on Aging Publication No. 129, June 1971, ii + 46p. Single copies available without charge from the Information Division, Administration on Aging, U.S. Social and Rehabilitation Service, Washington, D.C. 20201. Multiple copies may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for 30 cents a copy (25 percent reduction on orders of more than 100 copies going to a single address).

Resource Book on Financing Homemaker-Home Health Aide Services, National Council for Homemaker-Home Health Aide Services (1740 Broadway, New York, New York 10019), 150p. loose-leaf, mimeographed. Comprehensive information on both voluntary and governmental funding sources for demonstration programs, training, and on-going financing of specific aspects of service. Up-dating of the book through June 1972 is included in the purchase price. The cost to members of the National Council is $15; to non-members $25. Each additional copy: members $6, non-members $10. A separate invoice will be issued for each succeeding 12-month period to cover the cost of the up-dating service.

News in Brief

■ Mary E. Switzer, 71, former administrator of the U.S. Social and Rehabilitation Service, died of cancer October 16, 1971, in Washington, D.C. Miss Switzer ended her 48-year career of federal service in 1970 when she retired from her SRS post to become a vice president of World Rehabilitation Fund, Inc.

Miss Switzer was first put in charge of the federal-state program for rehabilitation of the disabled in 1950 and was regarded as a moving force behind the Vocational Rehabilitation Act of 1954. Statistical contrasts indicate the success of her determined efforts to expand rehabilitation programs of all sorts: in 1950, 56,000 disabled persons were rehabilitated, while in 1970 there were more than 240,000; the budget for these programs increased from $20.5 million in 1950 to more than $500 million in 1970.

By the time of her retirement, Miss Switzer, a native of Newton, Massachusetts, and a graduate of Radcliffe College, had received 16 honorary degrees and more than 40 awards, including the Lasker Award, the National Civil Service Award, and the Migel Medal of the American Foundation for the Blind.

■ "Pick and Match," an alphabet learning game for adults and older children to play with younger ones, consists of 52 cards with nearly three-inch high capital letters (printed in black on white stock). Available for $1.50 per set from Kraninsky Productions, Inc., 405 Lexington Avenue, New York, New York 10017.

■ Readers will note that the annual index (for volume 65—1971) of the *New Outlook* is included with this issue. Also, for the first time, an author and title index has been added to the braille and recorded editions—as a part of the December 1971 issue.

■ On October 10, 1971, the Industrial Home for the Blind, Brooklyn, New York, dedicated its Burrwood Home for the Blind, a residence for aging blind and deaf-blind men and women in Cold Spring Harbor, to the memory of the late George E. Keane. A bronze memorial plaque shows a relief portrait of Dr. Keane and describes his 43 years in work for the blind. Dr. Keane was assistant executive director in charge of community relations and program development at the Industrial Home for the Blind at the time of his retirement in 1970.

■ The Texas State Commission for the Blind has opened a new district office, its twentieth, in San Angelo. H. M. Farrington, rehabilitation counselor and office manager of the new office, will be assisted by a rehabilitation teacher, a caseworker for visually handicapped children, and a secretary.

■ Last October, the Division for the Blind and Physically Handicapped, Library of Congress, held a 2½-day exhibition of touch pictures and toys designed for the education and recreation of visually and physically handicapped and mentally retarded children. The collection, primarily the work of artist-designer-toymaker Henrietta Zegers, was on view in the Washington, D.C., headquarters of the division, with representatives of some 70 national and local agencies invited to attend. During the exhibition, Mrs. Zegers was joined by Mrs. Gladys Loeb of Silver Spring, Maryland, a founder of International Innovations for the Blind, in demonstrating how the pictures and toys were developed and how they are being used. The inspiration for Mrs. Zegers efforts was provided by a young neighbor, Miss Laurinda Steele, blinded at 14 years of age, and now a student at Goucher College, Baltimore. Miss Steele also attended the exhibition.

■ The Fox Point Federated Garden Club of Milwaukee recently presented the Wisconsin Regional Library for the Blind and Physically Handicapped, also in Milwaukee, with a display of samples of 20 common herbs and spices, along with a braille book describing their origins and uses. Library patrons can examine the samples both tactually and olfactorily.

■ Lucy Julia Hayner, Ph.D., professor emeritus of physics at Columbia University, died in New York City on September 23, 1971, at the age of 73. Dr. Hayner, who taught and conducted research in atomic and electron physics for more than 50 years, designed and constructed the first circular slide rule with braille markings for the use of blind students.

■ According to a report in the October 3, 1971, issue of the *Journal of the American Medical Association*, a new safe and simple triple vaccine for effective immunization against measles, mumps, and rubella has been developed. Of the 715 children, aged seven months to seven years and who had never had measles, mumps, or rubella, involved in the testing of the vaccine, 96 percent developed immunity to measles, 95 percent to mumps, and 94 percent to rubella. The only important side effect of the vaccine was a mild fever, which is commonly associated with measles vaccine used alone.

The report emphasizes that this combination vaccine will simplify administration, reduce costs, and minimize the required number of contacts by patient with physician—of special importance to children who might be difficult to reach on more than one occasion. The development of this vaccine may be of particular significance in view of the increased incidence of measles and mumps reported by the Center for Disease Control in Atlanta.

■ The Delta Gamma Foundation is offering summer scholarships for the training of orthoptists and teachers and consultants for visually handicapped children. Applicants are considered on individual merit and the amount of each grant depends on the cost of the specific training involved. The deadline for applications is March 15, 1972. Application blanks and further information may be obtained by writing to Mrs. David Dunbar, 20 Elm Court, Anderson, Indiana 46011.

■ The new address of the International Association of Rehabilitation Facilities is 5530 Wisconsin Avenue, N.W. Washington, D.C. 20015.

Appointments

■ Pittsburgh Branch, Pennsylvania Association for the Blind: **Walter J. Lakomy,** director of workshop activities.

■ West Texas Lighthouse for the Blind, San Angelo: **Preston Arnold,** director of rehabilitation training.

■ National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, Commission on Accreditation, chairman: **Jack E. Birch, Ph.D.,** associate dean of education, University of Pittsburgh.

■ American Foundation for Overseas Blind, Inc., New York City: **Stanley E. Bourgeault, Ed.D.,** coordinator of regional operations.

■ U.S. Office of Education: **Robert Melvin Worthington,** associate commissioner for adult, vocational, and technical education.

■ Pennsylvania Association for the Blind: **Mrs. Patricia Stull, R.N.,** director of field services (replacing **Miss Betsy Shank,** who is retiring after 25 years with the agency).

■ Minneapolis Society for the Blind: **Ed Collins, Jr.,** workshop director.

■ Virginia Rehabilitation Center for the Blind, Virginia Commission for the Visually Handicapped: **Andrew McGlamery,** assistant director.

■ National Easter Seal Society for Crippled Children and Adults: **Miss Jayne Shover,** executive director.

■ American Foundation for the Blind and American Foundation for Overseas Blind, New York City: **George Malmberg,** controller.

Awards

■ "Outstanding Physician of the Year" award, Texas Rehabilitation Association: **Fay E. Millett, Jr., M.D.,** El Paso, for his work as an ophthalmologist in the Texas State Commission for the Blind's program of screening and treating visually impaired persons.

■ Ambrose M. Shotwell Award, American Association of Workers for the Blind: **Arthur N. Magill,** managing director, Canadian National Institute for the Blind.

■ R. B. Irwin Award, National Industries for the Blind: **Carl E. Olsen,** former director of Lighthouse Industries (New York Association for the Blind), Long Island City, New York.

Coming Events

February 27-March 3 Society of Contemporary Ophthalmology, Winter Meeting, Hollywood, Florida.

March 16-18 California Transcribers and Educators of the Visually Handicapped, 13th Annual Conference, North Hollywood, California.

March 19-25 Council for Exceptional Children, 50th Annual International Convention, Washington, D.C.

March 26-30 American Personnel and Guidance Association, Annual Convention, Chicago.

April 2-7 Ninth Pan American Congress of Ophthalmology, Houston.

April 5-6 American Geriatrics Society, Annual Meeting, New York City.

April 5-8 American Orthopsychiatric Association, 49th Annual Meeting, Detroit.

April 14-15 Association for Education of the Visually Handicapped, Midwest Regional Conference, De Kalb, Illinois.

April 17-21 European Society of Ophthalmology, Fourth Congress, Budapest, Hungary.

April 24-28 Association for Research in Vision and Ophthalmology, Spring Meeting, Sarasota, Florida.

May 14-20 National Conference on Social Welfare, 99th Annual Forum, Anaheim, California.

May 15-19 National Braille Association, 12th National Conference, San Francisco.

May 29-31 American Ophthalmological Society, 108th Annual Meeting, Hot Springs, Virginia.

June 4-8 Special Libraries Association, Boston.

June 11-15 Medical Libraries Association, San Diego, California.

June 22-25 Optical Manufacturers Association, Optical Fair, St. Louis.

June 25-29 Association for Education of the Visually Handicapped, 51st Biennial Conference, Miami Beach.

June 29-July 1 Lions International Convention, Mexico City.

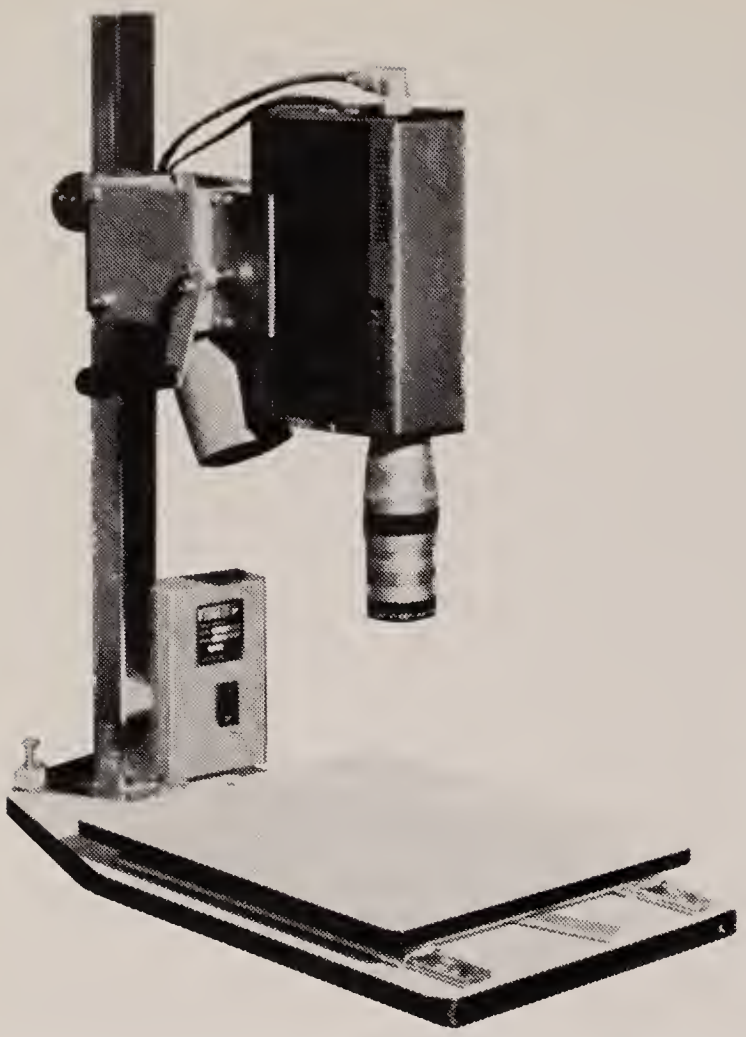
July 2-7 International Association of Gerontology, Ninth International Congress, Kiev, U.S.S.R.

July 26-August 2 International Council of Educators of Blind Youth, Fifth Quinquennial Conference, Madrid, Spain.

August 13-19 International Council on Social Welfare, 16th International Conference, The Hague, Netherlands.

August 27-September 1 International Society for Rehabilitation of the Disabled, 12th World Congress, Sydney, Australia.

September 11-13 Gerontology Around the World, 25th Annual Conference on Aging, University of Michigan, Ann Arbor.

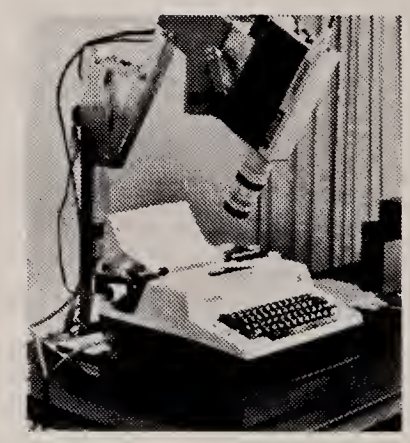


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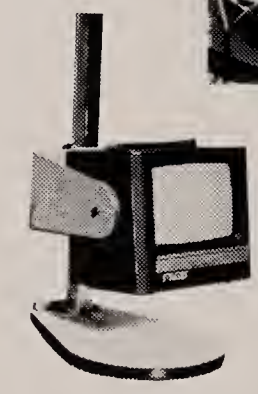
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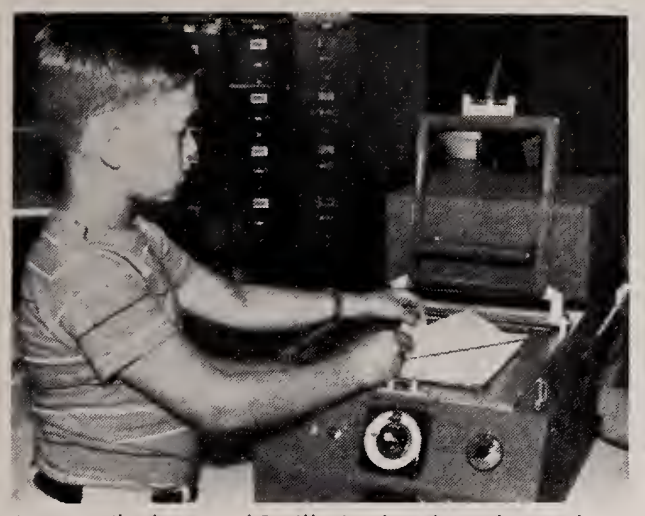
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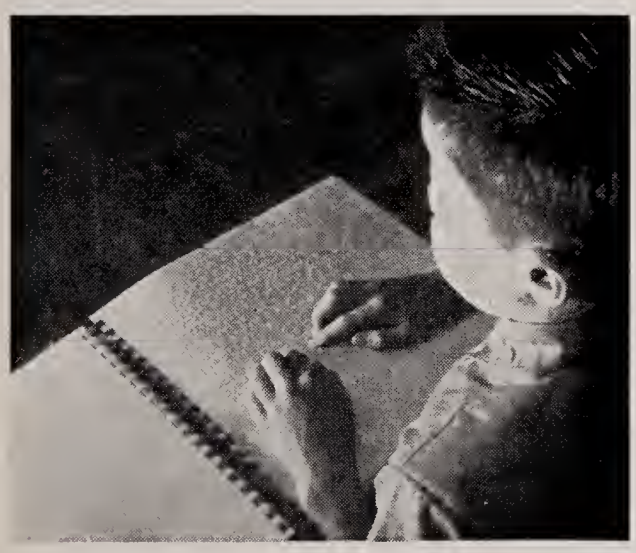


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The Personality of the Blind: A Non-Valid Concept

EMERSON FOULKE, PH.D.

Dr. Foulke is director of the Perceptual Alternatives Laboratory and a member of the Psychology Department of the University of Louisville, Louisville, Kentucky.

Many beliefs regarding the "personality of the blind" are implicit in the actions of those who are concerned, in some way, with blind people and their problems. One of these beliefs has been given sufficiently explicit development in the Rev. Thomas J. Carroll's book, *Blindness*, for it to be regarded by many as a theory of the "personality of the blind." This theory is concerned primarily with adventitious blindness, and it proposes that the appropriate model for interpreting the event of blindness in the life of an individual is that of death and rebirth. That the adjustment to adventitious blindness entails a dying as a sighted person and a rebirth as a blind person is, in my opinion, a conceptual approach that is not very helpful. First, it fails to encompass and organize information that would be useful to the educator and the rehabilitator. Further, because it is an inadequate formulation, it misdirects its adherents in the search for new information. It is a little surprising that the theory is given as much serious attention as it is, but I suppose it has a kind of poetic quality that many find appealing. Since I dismiss this point of view so completely, I feel under some obligation to propose an alternative point of view. Accordingly, I have attempted to organize and set down my own thoughts as to what could constitute the basis for a viable psychological theory of the "personality of the blind."



Situational Variables

☐ Let me start by asserting that there is no "personality of the blind." Blindness is a situational variable or, more properly, a complex of situational variables. Obviously, the blind person cannot acquire information by interpreting visual stimulation, and visual stimulation is the richest source of information about the world in which the individual realizes himself and his objectives. The lack of vision affects behavior, not only because one's behavior is an adjustment to acquired information, but also because there are many behavioral sequences that can only be maintained with visual feedback. Beyond this, people hold beliefs about blindness that influence their behavior toward blind people, and so the blind person experiences a different social environment than the person who is not blind. However, although it is beyond dispute that blindness refers to a significant complex of situational variables, it is only one complex of situational variables and there are many variables and complexes of variables to be considered. Personality is much too complexly determined to be accounted for in terms of a single complex of

This article is based on a background paper prepared by Dr. Foulke and distributed, along with other papers, to those who attended the seminar on Social and Psychological Aspects of Blindness, sponsored by the American Foundation for the Blind in New York City on January 25, 1971.

situational variables, and the term "personality of the blind" is, therefore, an invalid concept.

Defining "personality"

In spite of an ancient and venerable history of inquiry regarding personality, there is not even a suggestion of agreement about the definition of the term. In fact, many investigators have come to the view that everything of interest conventionally included under the term "personality" can be handled better in other ways, without the necessity of invoking a special "personality" concept. However, I believe that we do have something in mind when we use this term, and although the conception varies from theorist to theorist, there is a family resemblance among different conceptions of personality.

Personality and behavior

Whatever personality is, the evidence for it must reside in the observable behavior of people. If I say that each of my friends has a distinct and unique personality, I must have based this judgment upon my observation of their behavior. There is no other possible basis for such a judgment. From this point of view, then, personality must refer to relatively stable patterns of behavior. When I say that I know or am aware of the personality of another person, I am asserting the claim that I can predict at least some of his behavior in a variety of situations.

Theories of Personality

☐ Many attempts have been made to construct theories that can account for the development and maintenance of relatively stable patterns of behavior and these theories are "personality theories." Many such theories are monuments to the seductive lure of the intellectual game of manipulating the hidden variables they postulate without adequate attention to the relationships between such hidden variables and the behavioral consequences that are to be explained. Nevertheless, all theories of personality must ultimately seek to account for the behaviors that constitute the evidence for personality.

A general theory rather than a "blindness" theory

Several theories of personality are currently receiving the attention of investigators and scholars. Any general theory of personality worthy of the name must be able to account for the effects of situational variables such as the variables subsumed under the term "blindness." It seems to me that the effort to comprehend the significance of blindness in the life of an individual should be in terms of such a general theory, and not in terms of a special theory about blindness. As a matter of fact, I think it would be a useful exercise to compare several current personality theories in terms of their capacity for handling the consequences of blindness, congenital or adventitious. However, this would be a formidable undertaking, and so for the present, I will only state the rudiments of a theory of personality that makes sense to me.

The Human Animal

☐ The human animal is a system that processes information. It has apparatus—the organs of sense—by means of which at least some of the flux of energy in the environment can be detected. It has machinery—bones, tendons, and muscles—by means of which it can arrange and orient its own parts and manipulate objects in the environment. Between the sensing apparatus and the behavioral machinery there is a nervous system that acquires the information contained in the energy de-

tected by the organs of sense, and that uses this information to select, initiate, and regulate functions of the behavioral machinery.

Acquires and stores information

The human animal acquires information by interpreting stimulation; that is, it detects invariances in the flux of environmental energy that are dependably related to recurring or persistent states of nature. This information can be processed. It can be reorganized, simplified, abstracted, discarded, combined with other information, and so forth. Furthermore, it can be stored. Therefore, information acquired in the course of ongoing activity can be combined with stored information.

Because the human animal can process and store information, it can be programmed by experience. It can acquire plans, varying in scope and permanence, that regulate its interaction with the environment.

Simulates outcomes of behavior

A process of the central nervous system that is of particular importance is the use of the stored effects of past experience to construct simulations of the images that would be generated by sensing behavioral outcomes. To the extent that these simulations are accurate, they can yield the same information that would be present in potential images. Therefore, the human animal can explore behavioral consequences at an implicit level, before choosing a particular course of action.

Objectives

The consequences of the alternative behavioral sequences available to the organism can be evaluated in relation to the plans or programs acquired by the central nervous system. Implicit in these plans are objectives. These objectives are set, partly by the necessity of maintaining physiological states, such as those maintained by satisfying hunger, thirst, sex, and fatigue, and partly by the need to maintain social states, such as those characterized by group acceptance and approval.

Since objectives are realized through behavior, the risks associated with alternative behavioral outcomes must be assessed. Information must be gathered in order to assess risks, and to choose behavioral sequences that will realize objectives. Therefore, the human organism is an active, not a passive system. It seeks information.

Individual Differences in Personality

☐ What can be said about personality in terms of the system just sketched? All of the components in this system show variability from individual to individual. There are individual differences in sensory capacity, motor capacity, processing capacity, and storage capacity. Because of this variability, there are individual differences in the ability to formulate, maintain, and adaptively modify plans. It is these plans that select, integrate, and regulate the behavioral sequences which constitute the evidence for personality. Human animals have different personalities because they have different sensory, motor, processing, and storage capacities, because they interact with different social and physical environments, and because the experience that programs the central nervous system is different and unique for each individual. Variations in these components provide an ample basis for explaining the observed differences in human personality.

The effect of blindness

How is the event of blindness, either congenital or adventitious, to be taken into account by this model? Blindness reduces the capacity for

gathering information, because it renders the human animal insensitive to a source of stimulation that is rich in information content. The information contained in visual stimulation adequately specifies many of the states of nature about which human animals are most concerned. Many of these states of nature can be specified, in varying degree, by the information contained in other kinds of stimulation. Consequently, there are perceptual alternatives to vision, but they are often not as adequate as vision.

Behavioral Sequences and Possibilities

☐ Blindness restricts the range of behavioral possibilities because, without vision, an important source of the information used in regulating behavior is missing. Behavioral sequences are regulated by feedback information obtained from three sources: the proprioceptive stimulation produced by the component movements of behavioral sequences, the sensory stimulation produced by observing one's own movements, and the sensory stimulation produced by observing the effects of one's behavioral sequences. Consider, for example, the act of conveying a full cup of coffee from the saucer to your lips without spilling it. The movements and muscular adjustments required to perform this act produce a pattern of proprioceptive stimulation that contains some of the information needed to perform this act with precision. Watching your hand and the cup as you perform this act will permit an increase in precision. Of course, if precision is still inadequate, you may spill the coffee. You will probably observe this fact visually, although you might observe it by hearing the spilled coffee splatter on the table, or by feeling it if you spill it on your skin. In any case, you will have been informed that corrective action is required, and if you have been monitoring this act visually, you will know what corrective action to take. If you are blind and are performing the task, you will have to depend upon the feedback information in proprioceptive stimulation, and the information contained in the stimulation resulting from auditory and cutaneous observation of the effects of your movements. The information contained in the pattern of proprioceptive stimulation does not specify the process in which you are engaged as precisely as the information resulting from visual observation. The information contained in the auditory and cutaneous stimulation produced by observing the effects of your movements can indicate an excessive deviation from the appropriate behavioral sequence, but the stimulation contains no information upon which to base corrective action. In this example visual monitoring is useful, but not necessary. Examples could easily be given in which visual monitoring is essential.

Use of perceptual alternatives

The sensory and motor limitations just discussed have far-reaching implications for perception and cognition. They influence the gathering of information, the maintenance of behavioral sequences, the acquisition of plans, the simulation of images produced by behavioral outcomes, and the assessment of risk.

The Role of Concepts

☐ A concept is a generalization about the meaning of experience. It may be achieved by processing neural data, or it may be a belief ac-

quired through communication with others. The central nervous system stores both kinds of concepts, and they are functionally equivalent. Through communication with others, most members of our society acquire beliefs concerning the significance of blindness. Because these stored beliefs influence their behavioral interactions with blind people, the social environment of a blind person will be different from the social environment of a person who is not blind.

Firsthand and secondhand concepts

Furthermore, the central nervous system acquires and stores concepts regarding the functional capacities of the organism of which it is a part. These concepts may be acquired firsthand, by manipulation of objects and materials in the external world, or secondhand, through communication with others who have stored concepts of this type. Regardless of the source of beliefs about functional capacities, they will, by limiting the effective range of behavioral possibilities, restrict the variety of behavioral outcomes that can be experienced and simulated.

Congenital blindness

When blindness is congenital, the external world is specified, from the outset, in terms of the information contained in nonvisual stimulation. Operation of the organism's behavioral machinery is monitored nonvisually. The central nervous system is programmed by nonvisual experience. The resulting plans are formulated in terms of nonvisual information, and in consideration of those behavioral alternatives that do not require visual feedback. Although the access to information is reduced, there is much redundancy in the organization of the energy to which humans are sensitive, and a good deal of information can be acquired by interpreting stimulation that is ordinarily not interpreted because visual stimulation constitutes a better or more convenient source for such information.

Adventitious Blindness—Reprogramming the System

☐ When blindness is adventitious, a nervous system programmed by visual experience must be reprogrammed. New information must be acquired by interpreting formerly unused stimulation. New sources of feedback for regulating behavioral sequences must be discovered. Behavioral sequences that depend upon visual feedback for their maintenance must be discontinued. New behavioral sequences must be assembled and maintained. The store of information about behavioral possibilities and outcomes must be modified. Many existing plans must be modified or cancelled. New plans must be formulated. Of course, stored information, derived from earlier visual experience, is still available and can be used. However, the required reorganization of the system is extensive, and until it is accomplished, the system must function at a reduced level. The success of the reprogramming that is required in order to regain functional adequacy, and the speed with which this can be accomplished, will depend upon many factors, such as the capacity of the remaining system components, system objectives, stored beliefs about the behavioral possibilities defined by blindness, and the arrangement of the external conditions affecting learning.

(Continued on page 42.)

A Survey of the Vocational Placement of Visually Handicapped Persons and Their Degree of Vision

THOMAS W. DICKEY
LOUIS VIECELI

Both Mr. Dickey and Mr. Vieceli (who is coordinator of Placement Counselor Training) are on the staff of the Rehabilitation Institute, Southern Illinois University, Carbondale.

During the past several years, counselors for the blind attending the Job Development and Placement Course at Southern Illinois University, Carbondale, have engaged in a considerable amount of discussion and speculation concerning the following questions: 1) Which occupational areas of renumerative employment afford the maximum opportunity for placing visually handicapped individuals? 2) What is the range of visual acuity among those being placed and, within the group of legally blind, what percentage are totally blind? 3) What are the questions which employers most frequently ask of counselors who are attempting to develop job opportunities for visually handicapped persons?

Questionnaire Survey

☐ Since there seemed to be significant differences of opinion on these matters, the placement course staff decided to take a more systematic follow-up approach to the problem by conducting a survey among graduates of the program who were working in the field. A questionnaire was designed to elicit from each counselor the number of placements made in each of 18 different job areas during the period July 1, 1968—April 15, 1970. Since the emphasis in this study was on occupational areas in which blind persons were competing with sighted persons, placements in vending stands and sheltered workshops were not included. The 18 job areas included eight in the professional field (lawyer, public school teacher, teacher of the blind, college or university teacher, taxpayer service representative, computer programmer, social worker—agency for the blind, and social worker—other kind of agency) and 10 in the non-professional field (industrial—not including janitorial or custodial work, food service, laundry, hotel or motel, hospital—other than x-ray or clerical, x-ray or photographic technicians, clerical, sales—other than blind-made products, sales—blind-made products, and self-employment). Counselors also reported the visual acuity of each client placed on the basis of the following schedule: Category 1—above 20/200 (partially sighted); Category 2—20/200 or less but not totally blind (functional vision); Category 3—totally blind (no functional vision). Categories 2 and 3 constitute the legally blind. Finally, counselors were asked to indicate the kinds of questions most frequently raised by employers during interviews in which the counselors were endeavoring to develop an employment opportunity for a visually handicapped client.

Job areas

These questionnaires were sent to 225 graduates of the Southern Illinois University Placement Course who work with agencies for the blind in 26 states. Since the purpose of this project was simply to obtain relevant information from as many counselors as possible, no at-

Replies

tempt was made to maintain a breakdown of performance by states. Of the 225 questionnaires mailed out, five were returned unopened and 88 counselors responded. Data from 11 of the 88 respondents were not useable either because these counselors were no longer in the field or they had been promoted to supervisory positions. This leaves a total of 77 useable questionnaires, or 34.2 percent of the number mailed out. While this is admittedly a low percentage, it was still felt that the number was sufficient to provide some meaningful data. The results of the survey are presented in Tables 1, 2, and 3.

Placements by Job Areas

☐ The data in Table 1 indicate that the 77 counselors who responded had placed a total of 1,733 clients in the 18 specified occupational areas and in jobs in other areas categorized here as "other." The greatest number of placements in a single area were made in industrial positions (600) or about 35 percent of the total. This represents more than three times the numbers of clients placed in all categories in the professional sector (11.2 percent). Furthermore, if hospital, laundry, food service, and hotel-motel occupational areas are considered as the bulk of service occupations, only half as many placements were made in these (299) as in the industrial area.

Placements and Degrees of Vision

☐ With respect to the distribution of placements in relation to degrees of vision, a major purpose of this study was to get some indication of

TABLE 1
Numbers of Placements by Occupational Areas and Degrees of Vision

Occupational Area	*Degree of Vision*			
Professional	*20/200 or better*	*20/200 to total*	*Totally blind*	*Total Number*
Lawyer	0	0	2	2
Teacher-Public School	22	30	9	61
Teacher of the Blind	3	4	2	9
Teacher-College	0	11	1	12
Taxpayer Service Rep.	1	1	5	7
Computer Programmer	13	18	10	41
Social Work-Blindness	3	7	4	14
Social Work-Other Agency	10	19	7	36
Sub-Totals	52	90	40	182
Non-Professional				
Industrial	288	248	64	600
Food Service	53	61	9	123
Laundry	29	13	6	48
Hotel-Motel	23	18	2	43
Hospital	40	39	6	85
X-Ray or Photographic Technician	0	30	13	43
Clerical	67	64	29	160
Sales (Not Blind-Made Products)	70	32	7	109
Sales (Blind-Made Products)	3	26	10	39
Self-Employment	79	75	37	191
Sub-Totals	652	606	183	1441
Total (Professional and Non-Professional)				1623
Other				110
Grand Totals	704	696	223	1733

the extent to which services are being provided for totally blind clients as compared with legally blind clients who have varying degrees of functional vision. In order to make such a comparison, we utilized the Model Reporting Area information provided in 1967.[1] The three lowest levels of visual acuity described in the MRA data are 1) absolute blindness—cannot perceive light, total visual loss or zero visual capability; 2) light perception only—has faulty light projection, can perceive light but cannot locate it; and 3) accurate light projection only—can perceive light and locate it. It would seem that these three levels could properly be equated with the category "totally blind" in this survey since the next highest level of visual acuity in the MRA date is "less than 5/200." This level is defined as "can perceive motion or form, can count fingers when less than three feet away from them" and would therefore fall within the second category of visual acuity specified in the questionnaire, "20/200 or less, but not totally blind."

"Totally blind" category

Of all the placements reported in this survey, 704 (43.4 percent) involved clients whose visual acuity was 20/200 or better, 696 (42.9 percent) had 20/200 or less but were not totally blind, and 223 (13.7 percent) were totally blind. These figures do not include those placed in the occupational category designated as "other" since relevant information was not provided on a significant number of returned questionnaires.

Comparison With MRA Statistics

☐ The 1967 MRA population included 61,548 legally blind persons from 15 states who ranged in age from 20 to 60 years. Approximately 25.5 percent of this sample had visual acuity of absolute blindness, light perception, or light projection. If we accept 25.5 percent as the proportion of those who are totally blind in the legally blind population, age 20-60, this then becomes a basis for assessing the degree to which the counselors in this study provided services for the totally blind as compared with the rest of the legally blind population. In Table 1, the clients listed in the second column, "20/200 but not totally blind," and the third column, "totally blind," would constitute the legally blind population. Within these two categories of visual acuity, 919 clients were placed in the 18 occupational areas. Of this number, 223 or 24.3 percent were totally blind. Thus, it appears that for the clients in this study at least, the totally blind are receiving their fair share of services in the sense that the percentage of totally blind clients being placed (24.26 percent) closely approximates the percentage of totally blind persons (25.5 percent) in the relevant population.

Vision in professional and non-professional categories

Another aspect of visual acuity which deserves attention is the difference in the distribution of visual acuities among clients placed in professional occupations as compared with those placed in non-professional occupations (see Table 2). Among clients placed in non-professional occupations, 45.3 percent had vision of 20/200 or better while only 28.6 percent of those placed in professional occupations fell within this category. On the other hand, 71.5 percent of clients placed in professional occupations were legally blind as compared with 54.8 percent of those placed in non-professional occupations.

TABLE 2
Percentage Comparison of Placement Areas and Visual Acuity

Placement Area	*Degree of Vision*		
	20/200 or better	*20/200 to total*	*Totally blind*
Non-Professional	45.3%	42.1%	12.7%
Professional	28.6%	49.5%	22.0%

Discussion

☐ These differences may simply be an artifact of the present study or they may be the result of variables which cannot be identified on the basis of the data available in Table 1. For instance, consider the population of visually handicapped persons with visual acuity of 20/200 or better (partially sighted) who are qualified for and interested in obtaining employment. Within this population, a certain number of individuals obtain training and employment without any recourse whatsoever to an agency for the blind. It is entirely possible that the percentage of such individuals is significantly higher among persons seeking professional employment as compared with partially sighted individuals interested and qualified for employment in non-professional areas. If this were the case, it would obviously reduce the supply of such clients available to an agency for placement in professional as compared with non-professional areas and would account for the difference shown in this study.

Income and motivation

On the other hand, it is possible that the higher percentage of legally blind persons placed in professional occupations might be a function of the fact that earnings available on professional jobs exceed the income available through state and federal benefit programs by an amount which makes working on such jobs preferable to remaining on benefits. The average income available from jobs in non-professional areas may not, in many cases, be sufficiently high to provide this kind of motivation. Further study would, of course, be required to determine the accuracy and relevance of these speculations.

Employer Questions

☐ As can be seen from Table 3, employers involved in job development interviews voiced the most concern about insurance. In all instances, this concern involved Workman's Compensation, the coverage paid for by the employer to provide specific monetary awards to employees who suffer a loss of earnings or earning power because of an injury sustained during working hours. Employers who mentioned this as an area of concern seemed to be under the impression that if they hired a blind person, their insurance rates would automatically be increased. It is difficult to understand why this area should continue to be of concern to so many employers, since the fact of the matter is that the hiring of a blind person has no effect whatsoever on the premium that employers pay for Workman's Compensation. Premium rates are figured on the basis of 1) the frequency and severity of the total number of accidents in the plant over a given period of time, such as one year, and 2) the inherent hazards of the industry. Since there is no evidence that blind persons working in industry have contributed to an increase in the frequency and severity of accidents, their employment has not and does

TABLE 3
Specific Areas of Concern Voiced by Employers

Areas of Concern	*No. of Employers Raising Question*
Insurance	27
Mobility	21
Safety	16
Vision Required	9
Flexibility	7
Total	80

not affect Workman's Compensation premium payments. Employers Mutual of Wausau, one of the major sources of Workman's Compensation coverage, has attested to this fact in writing.[2]

Summary

☐ To get an indication of the occupational areas in which visually handicapped clients are being placed, the range of visual acuity among those being placed, and the kinds of questions employers were asking during job development interviews, 225 questionnaires were mailed to graduates of the Placement Counselor Training Program at Southern Illinois University. Useable questionnaires were returned by 77 counselors who placed a total of 1,733 clients in 18 specified occupational areas and in the category "other" during the period July 1, 1968, through April 15, 1970. The occupational area, "industrial" showed the largest numbers of placements (600), with self-employment (191) second, and clerical (160) third. With respect to vision, 43.4 percent of those placed had visual acuity of 20/200 or better, 42.9 percent had 20/200 or less but not totally blind, and 13.7 percent were totally blind. Among the legally blind persons, 24.3 percent were totally blind, a figure which closely approximates the 25.5 percent of totally blind persons in the legally blind population who are 20-60 years of age.

References

1. Tabulations for 1967 of the Model Reporting Area for Blindness Statistics. Biometrics Branch, National Institute of Neurological Diseases and Blindness. U.S. Department of Health, Education, and Welfare, Public Health Service Publication.
2. *Who Are the Handicapped?* Employers Mutual of Wausau, Wausau, Wisconsin 54401.

The Personality of the Blind: A Non-Valid Concept—*Continued from page 37.*

Conclusions

☐ This concludes my outline of a theory of personality that can account for the effects of congenital or adventitious blindness. In developing this outline, I have found no occasion to invoke a concept such as "death and rebirth." Conceptions of this sort may have poetic appeal, and I do not dispute the value of poetry in the mental life of a cultivated human being, but I submit that, in the present case, we need more science and less poetry. I believe that the theory, the rudiments of which I have suggested, is testable because it suggests observations that are relevant to the determination of its adequacy, and practical because it suggests appropriate activities for educators and rehabilitators.

Public School Teaching as a Career for the Blind: Mythology and Methodology

KENNETH CROSS

Dr. Cross is curriculum coordinator for the Falconer Central School, Falconer, New York.

In the course of my work in public school teaching, I have become friendly with a number of persons responsible for hiring teachers. Not too long ago, one of these individuals told me an interesting story. He had agreed to interview a blind teaching candidate, and, at least according to himself, he was anxious to hire the candidate. During the course of the interview, this principal asked the blind candidate, interested in teaching science, how he would know if the class grasped a concept. The answer the teaching candidate gave lost him his job; he said that he would know whether a concept had been grasped because at least some of the class members, in grasping the concept, would excitedly say, "oh, ah," or emit some other barbaric sound which would indicate the clear light of knowledge. I would not have hired the candidate either; not because he was blind, but because he was so naive.

Naivete Is Characteristic

☐ The sad truth, however, is that this kind of naivete is characteristic of talk about the blind person in teaching. Administrators are naive in their comments to administrators, rehabilitation counselors are naive in their analysis of difficulties surrounding teaching as a vocation. In my own ways, I am equally and perhaps more naive; but I think that some of the experience I as a blind person have had in public school teaching and administration can clarify some of the ridiculous talk I have heard about the blind person in teaching, even at sophisticated conferences aimed at providing vocational direction.

Facing facts about limitations

We must start, I think, with the basic truth that a blind teacher cannot be as effective a teacher as an individual with the same characteristics would be if he could also see. The facial expressions of students, a wide variety of visual aids, and other crucial elements in the teaching situation simply cannot be used as effectively by a person without vision.

But this statement should not be taken to mean any more than it says. There is, I think, almost no activity which is made easier simply by virtue of blindness. Even begging could probably be more effectively done by someone with sight faking blindness than by a genuinely blind individual. All other things remaining equal, the best blind person in any profession would be better if, to his present gifts, the gift of vision was added. Blindness is, then, never a vocational attribute. Let us analyze some situations in teaching to which this truism applies.

Handling Class Testing

☐ One problem a blind teaching candidate is sure to be asked about is how he will handle class testing; i.e., how will he prevent cheating? There are, of course, a number of answers to this query. One answer is for the blind candidate to promise that he will put everyone in the class on the honor system and that he believes that, under this system, cheat-

ing will not occur. How nice it would be if that happy state of affairs obtained. We can forget, for purposes of this discussion, that what the blind candidate has really said is that he expects one student to tell on another because he is blind. If we talk in these terms, we can see that the blind person has already made an admission that he requires special help. But the sad truths are that in every group of 100 children there are likely to be at least six or seven who will get away with anything they can, anytime. There will, of course, also be a group of about the same percentage of children who will never cheat, regardless of the circumstances. But even if the honest students were willing to try to control the dishonest ones, it is doubtful that they could do so. Writing on arm bandages, infra-red writing on a pant leg, using a miniature signaling device—these are only a few of the bizarre techniques that have been used by creative students to cheat the system. Probably the best of the cheating mechanisms have not yet been detected by any teacher.

Answering the question

Nonetheless, the blind teaching applicant is required to answer this question, and the only way he can is to use some kind of bizarre sophistry. A more sophisticated answer is that there are all kinds of evaluation devices, and that only some of them admit of cheating. The open book essay, for example, is a device on which it is difficult, but not impossible, to cheat. Rating scales, self-evaluation techniques, and multiple-choice answers supported by a brief rationale are other devices which minimize cheating. These, a blind person can use successfully, but on others, he is likely, at least at times, to have considerable difficulty. Why not admit the difficulty as a minus and go on from there?

Why not admit, too, that a blind person cannot use visual aids as effectively as a teacher with vision? Whatever discussion a blind teacher prepares from a visual aid is, at best, based on second-hand information. This is a fact, and it's one we're stuck with and might as well admit.

Correcting papers

Paper correction, too, is a problem for the blind teacher, and he had better admit it. The reading will have to be done by somebody else. Either it will always be done by the same person or it will be done by different people. If it is done by the same person and that person becomes ill, or dies, or quits, the papers will be corrected less efficiently. If the papers are done by various individuals who read to the blind teacher, then the teacher will be unable to rate handwriting improvement, neatness, and possibly even spelling for individual students with the clarity and precision desirable from teachers. Besides, having papers read aloud slows up the process of paper correction, so that, no matter how many papers a blind person corrects, he could have corrected more if he had been able to see.

Now all of these difficulties, and many, many more must be admitted by the blind teaching applicant if he wishes to conduct a reasonably enlightened job interview. Administrators will ask about these matters; they will want answers. A whimsical answer based on wishful thinking is not enough.

Reasonable and Responsible Answers

☐ I remember one administrator, who, while I was looking for a job,

asked me what would happen if I walked out of a room during a fire drill, with all of the class members in front of me, not realizing that there was a student in the back of the room who had fainted. There was only one reasonably responsible answer that could be given to that query: "Given the conditions you have established, sir, the student would burn to death; but I do not think that situation is likely to occur because there are precautionary measures that can be taken." I got the job, and it may be interesting to the readers to know that in this particular school, nine students had died ten years previously in a fire.

If blind teachers and their counselors can rid themselves of naive notions about teaching, then administrators of public schools and those responsible for student teaching programs can be approached on a more meaningful basis.

The Best Person for the Job

☐ The world is not composed of two kinds of teachers: blind and sighted. Student teaching and teaching candidates come in all shapes and sizes, with all types of psychological dispositions, backgrounds, perceptual sets, strengths, and weaknesses. There is only one valid argument a blind person can use in seeking a teaching position and that is the argument that, in spite of blindness, he is still the best available candidate for a job.

Chances of success

It is, for example, fairly standard college practice to reject blind students applying for admission into education programs on the grounds that the student will not be accepted until he can be guaranteed a student teaching position. If colleges investigate the question at all beyond that point, they approach administrators with a question such as "are you willing to take a blind student teacher?" Faced with this question in the abstract, why should an administrator say yes? If I knew nothing more about two candidates than that one was blind and the other was not, I would obviously prefer the one who was not. And yet the same colleges regularly accept as education candidates individuals unlikely to succeed at student teaching; whether they will actually succeed in student teaching is seldom made the grounds for acceptance. Three years ago, for example, I had a student teacher from a small religious college. The teacher's advisor told me, in the preliminary interview, that though the girl was exceedingly gifted, she would probably not be successful as a teacher. On the first day this student was supposed to teach a class, she quit college.

Good intentions

I am not questioning the laudable intentions of college officials who do not want to encourage a person to enter a program he cannot possibly complete. However, this kind-heartedness on the part of officials has been responsible for eliminating blind students from the teaching profession before they even had an opportunity to succeed. Similar barriers are not placed in the way of others who have undesirable teaching characteristics; if they were, we would probably have no teachers.

Inherent Uncertainty

☐ Similarly, there are few school officials, I think, who have not hired candidates about whom they have had serious doubts. It is not uncommon for school officials to be frantically trying to hire teachers two or

three days before the school year begins. At that point, many of them will settle for anything that purports to be a warm body, as long as he can see. Similarly, school officials regularly hire individuals they are sure will stay in teaching only for a year or two. That is one explanation for the teacher turn-over rate of 25 percent or more experienced by the average school system in the country. And yet a draft-eligible candidate or a newlywed woman is likely to be given preference to a blind candidate on the grounds that the blind candidate might not succeed in the profession. Whether he will succeed and stay or not, it is of veritable certainty that the newlywed woman will soon leave and that the draft-eligible candidate will soon be forcefully removed from the system. The logic in such decisions seems fuzzy.

Weighing blindness

The only thing we can ask of administrators is that they weigh blindness properly in the selection of a teacher. Probably all of us would give lip service to this notion. But when we begin to talk about the employment of blind teachers, we act as though the notion were some kind of foreign element.

Placing the unplaceable

For example, I have heard vocational rehabilitation counselors argue at length about how to place an individual who either did not do well on interviews or lacked the drive and ingenuity essential for turning up his own job leads. If we exclude the word "blind," that question becomes patently absurd. It amounts to asking how we can get anybody into teaching who does not have the energy to look for a job or who does not have the capacity for making a reasonably good impression during an interview. Using the word "blind" or not, the difficulty posed by such a problem is almost insurmountable. And this analysis is perhaps more valid than it seems; I have known many sighted individuals who could not get jobs in teaching for exactly these reasons. On the other hand, there are ample opportunities for a blind person to get a job in teaching if he uses a plethora of means for convincing the administrators that he should be judged on his merits.

Meeting Chief School Officers

☐ I have, for example, met many blind teaching prospects who, though almost through college, knew no chief school officers. Yet chief school officers are singularly easy people to meet. By the very nature of their jobs, they must be actively involved in community affairs and a goodly number of them will always be present at educational conventions. Further, any research conducted within a school must usually be cleared by the chief school officer. Consequently, there are at least three ways in which a blind individual may go about meeting chief school officers while he is still in college. First, he may himself become active in community affairs; and this is generally not very difficult. For example, a blind person who seeks the opportunity will frequently be asked to give speeches, and his own personal experiences make a good topic. Further, by joining clubs or a professional fraternity such as Phi Delta Kappa, affiliating with and becoming active in a political party, or by simply troubling to go to public events, a blind person is more than likely to be noticed by, if not actually to get to know, a chief school officer.

Community activity

Professional meetings

Second, a blind teaching candidate should begin to attend professional meetings early, yet blind teaching candidates and even vocational rehabilitation counselors seem not to perceive the importance of such meetings. I recall that, when I was being sponsored for a doctoral degree by vocational rehabilitation, I was refused funds to attend national conventions, even though they were clearly of vocational value, until I protested the matter with vehemence. Chief school officers, building principals, and key university people attend such conventions in droves, and they are always looking for specific kinds of talent. Last year, for example, I was offered a $10,000 post-doctorate on the spot because of questions I had asked some panelists and a few social drinks I had with the professor in question after the sessions. It is regular practice for students looking for jobs to attend such conventions and meetings; in fact, at the major national conventions there are interviewing booths set up expressly for the purpose of seeking out new candidates. Yet blind people, who can reasonably expect difficulty in obtaining jobs, do not regularly attend such gatherings.

In-school research projects

Third, any research project to be carried out in a school is likely to lead the blind individual devising it to meet and become well acquainted with a chief school officer. Supervising principals want to know what research is being done in their school, and they often read or at least glance at the results.

Other suggestions

These are only three means of making job acquaintances. There are many others, of which I will list only a few. Students who decide to earn their master's degrees prior to teaching might seek jobs as substitute teachers. It is likely that, blind or not, an individual will be called in as a substitute teacher at least once if he gets his name on the list. Once may be enough to land him a regular job.

Learn About the Community

☐ The average teacher is not very well informed about community affairs, unfortunate though that may be. In a conversation with a board of education, I once had occasion to mention an item in the most recent issue of their newspaper of which all were totally ignorant. I cannot help feeling that the impression made was probably favorable.

Anyone may attend a meeting of any board of education. It is not usually done, but for that reason alone attendance is well noted. Attending such meetings over a period of three or four months is likely to give the blind individual more insight into the problems of school administrators, including the problems of teacher recruitment, than he can possibly get in his course work.

Course selection

It is even possible to select courses with the deliberate design of meeting school officials. For example, a candidate for a master's degree may select a course in administration, particularly an advanced course which practicing school officials are likely to attend. The competencies shown by the blind student in such a course may lead the administrator to expect that he will show similar competencies in teaching.

Favorable Outlook

☐ Blind teaching candidates should also realize that there are some school administrators who would genuinely like to hire a blind individ-

ual. I am not suggesting that such administrators are without prejudice; but I am suggesting that for one or more reasons ranging all the way from a blind, elderly father to a spirit of innovation, a school official might earnestly desire that a blind person would sell his services. I must refer again to the acquaintance of mine who earnestly wished to hire a blind teacher candidate who turned out to be dreadfully naive.

Decision-making

But any school administrator is faced constantly with the problem of making those decisions optimal for his school district. He makes literally hundreds of decisions daily. He will be excused, I think, if he indulges his prejudices, so long as he makes his decisions on the best available information. Clearly, the job of the blind applicant is to provide, first-hand, more valid information.

I want to close this paper, which has probably lost me some friends already, by pointing out another serious, if understandable, error in thinking about education as a field. I am not at all sure that blind individuals are not being unduly influenced to select teaching as a career.

On Choosing to Become a Teacher

☐ The ardor of rehabilitation counselors, the knowledge that other blind teachers have been successful, and the necessity to do something after college helps, I think, to explain such influence. As a teacher, I had many rewarding experiences and many frustrating ones as well. Students did sometimes cheat, there were discipline problems, I did get behind in correcting papers. So does every teacher I have ever known. In relation to other professions, the pay in teaching is not very high, the responsibilities are great, and the drudgery is occasionally overwhelming. Just as it is true that not everyone who wants to teach can, so it is true that not everybody who can teach should. Even within the field of public school education, there are jobs blind people can do as well or better which may, in addition to conferring higher salaries, may be more rewarding and less taxing.

Innovations within the profession

Rapid innovations in education are tending to make teaching something different from what it used to be. The time will come, I think, when we will not have classroom teachers but large-group lecturers, program writers, and a plethora of other vocations even within the profession now commonly referred to as classroom teaching. These changes in teaching will affect the blind individuals currently entering the field. In many instances, the changes will be beneficial, allowing the blind teacher to do those things he can do most effectively. In other instances, however, the change will be deleterious, particularly to an individual who has not adjusted sufficiently well to his blindness or to other factors to enable him to work well with a team.

Other jobs in education

To illustrate this statement, I know of a number of jobs which paid much more than the salary of an average classroom teacher open to individuals willing to serve as project coordinators, project directors, or project evaluators. Many of these jobs have gone unfilled, while others have been filled by individuals with no educational experience at all. Attention should be directed toward these jobs, not only because they are as remunerative as teaching, but also because functioning in such a

job one might acquire those contacts essential for later acquiring a job in the classroom.

Summing Up

☐ I know that I am sometimes guilty of over-expressing myself for the sake of argument. If I have done that in this paper, I beg the reader's tolerance. But I believe that education is a fine field for many individuals who have the proper experiential set, and I firmly believe that some of those individuals will be blind. They should enter the field of education with all their heart and soul, not because it is expedient, not just to have a job, but because it is the right job for them. I am not urging that individuals enter the field of teaching simply to be messianic. In fact, I think it is lamentable that colleges and, for that matter, rehabilitation counselors continue to expect answers to such questions as "why do you want to go into teaching?" or "how do you know you can teach?" Sometime in life, somehow, one develops a preference for some kind of job; but one seldom realizes when this has happened and less seldom can he tell why. One should, I think, whether blind or not, enter teaching because it appears to be the best alternative for him and should remain only as long as this turns out to be the case. Similarly, one should hire a blind teacher only when and if he becomes convinced that a person with the particular make-up of this specific blind individual is the best possible candidate for the job. Let me close with one final story.

Consider the alternatives

When I decided to go into teaching, it was because I decided not to enter law and did not know what else to do. When I was hired to teach, the chief school officer, a man I have since realized was a very warm and sincere individual, called me and said, "I guess I have to hire you." I had considered my alternatives and found the best one for me; similarly, he had considered his alternatives and accepted the best one for him. In the beginning, neither of us was totally satisfied; I like to think that, in the end, we both gained.

Coming This Spring in the New Outlook

The next few issues of the *New Outlook for the Blind* will include articles on the following subjects: using braille to teach dyslexic children to read print; services for deaf-blind children and adults; training blind persons to be taxpayer service representatives for the U.S. Internal Revenue Service; psychological factors in orientation and mobility training; and teaching English as a second language to blind persons.

Recreation for Severely Handicapped Persons in a Community Setting

JANET POMEROY

Mrs. Pomeroy is the founder and director of Recreation Center for the Handicapped, Inc., San Francisco.

Over the past 19 years, the Recreation Center for the Handicapped has served approximately 8,000 persons of all ages and with all types of handicaps. In so providing recreation and physical activity within a community setting, we have discovered that there are a certain number of basic principles which are essential in organizing and conducting such services. These are: 1) recreation for the handicapped is a need and a right, not charity; 2) the handicapped belong in the community and as citizens they have a right to their fair share of the programs that are offered; 3) the handicapped are entitled to recreation and a camping program throughout the entire year, not just for a week or two in the summer; 4) the recreation needs and interests of the handicapped are the same as those of the non-handicapped, meaning that their participation is voluntary and their voice in planning and evaluating programs is sought; 5) with imaginative adaptations as they are necessary, handicapped people can participate in all types of recreation activities; 6) the handicapped can utilize all the regular recreation and leisure facilities that everyone else uses—"special" staff and volunteers are needed, not special facilities; and 7) the goals for recreation for the handicapped are also the same—to provide healthful and constructive activities which contribute to the physical, intellectual, social, emotional, and spiritual development of the individual.

Benefits of Programs for the Handicapped

☐ Perhaps the most important result of community recreation programs for handicapped persons, in addition to improved learning, mental and physical health, self-realization, and social development, is the preparation of these individuals for integration into other community programs. For example, during a recent seven-year period, the Recreation Center provided services to 650 multiply handicapped children who had not been accepted in any school. By the close of that period, 350 of these children had improved sufficiently in physical, social, emotional, and self-help skills and in general maturation to be enrolled in city schools for the retarded or in special classes in regular schools. Some were even accepted in regular classes. Also during that period, 400 severely retarded young adults and older adults who had recently returned to the community from state institutions were accepted into the Recreation Center program. Of these, 103 progressed to the point in their self-confidence and social and self-help skills that they could "graduate" from the Center into municipal recreation and park programs. In

This article is based on a paper originally presented at the Western Regional Conference on the Visually Handicapped Child Who Functions on a Retarded Level, sponsored by the American Foundation for the Blind and held in San Francisco on June 10-12, 1971.

addition, 12 of these individuals found jobs in the community and 10 are serving as "program helpers" in the Center's Work-reation Program.

Specific philosophical and practical considerations

As a result of our many years of experience in successfully conducting community recreation programs for severely handicapped and retarded persons, we have learned that there are a number of specific philosophical and practical considerations to which attention must be given. In the following pages, we will try to explain our approach to community recreation programming by discussing: enrollment policy; the basic principles of community recreation; the attitude and leadership of staff; how to conduct a dynamic program; the atmosphere and physical site; the provision of transportation; and program financing.

Enrollment Policy

☐ The Recreation Center has maintained a simple and flexible enrollment policy. All children and adults who are in need of the program are eligible. No one is considered too handicapped, too young, or too old, including the bedfast. There are no psychological or other formal diagnostic evaluations required, only the satisfactory completion of an application form by the parent or guardian and a brief medical report from a physician or clinic. The families of clients are also interviewed by the Center's physician, social worker, and recreation supervisor. Because of this policy, the clients of the Center include the profoundly retarded, the physically handicapped, the emotionally disturbed; their specific behavioral problems include hyperactivity, short attention span, communication disorders, general bizarre behavior, distractability, sensitivity to noise, screaming, and self-destructive acts, such as head banging.

Rationale for policy

There are several reasons why this enrollment policy has been adopted and maintained: 1) severely handicapped and retarded children, like normal children, need early mental, physical, and emotional stimulation that their parents are often unable to give (some children are kept in their cribs much too long, up to 12 years of age in some cases); 2) enrollment of such children in the program allows the parents some relief from the constant 24-hour-a-day care of their child and time to devote to other members of their family (hiring help in the home is often impossible); 3) a recreation-nursery school type of program allows the parents to learn more about the care and management of their children; 4) students and other professional workers from the community who are trained in this field have the opportunity to work with severely handicapped infants rather than just adults.

Cooperation with institutions and agencies

The Center works closely both with state institutions to enroll those severely retarded individuals who have returned or will be returning to the community and with other agencies and municipal departments to integrate as many of these individuals into their programs as possible. There is frequent discussion among the staffs of all these institutions and agencies regarding the progress of individual clients and their chances for integration into regular programs.

Goals of Community Recreation

☐ In conducting recreation programs for all ages and types of handicapped and retarded individuals and groups, the Center adheres strictly to the basic goals of community recreation, namely, personal fulfillment,

democratic human relations, leisure skills and interests, health and fitness, creative expression, and aesthetic appreciation. The planning of activities takes into account the interests, desires, and needs of the individual participants and aims at helping them to progress toward greater degrees of social independence, physical well-being, emotional stability, and intellectual advancement. In addition, the lack of previous opportunities for social relationships and for recreation programs in general is taken into account.

General objectives

The general objectives of the Recreation Center program are: 1) to provide opportunities for the creative use of leisure time for those handicapped and mentally retarded individuals who are unable to participate in recreational activities with non-handicapped groups; 2) to encourage various means of self-expression through adapted recreation activities and to provide a setting that will encourage satisfying experiences with others of similar background, including members of the opposite sex; 3) to develop the skills and abilities necessary for successful participation in a wide variety of wholesome recreational activities that are appropriate for each individual's capacities and for his social needs and interests; 4) to provide outdoor education in camping and recreation experiences and to instill a respect for natural resources through the development of outdoor skills; 5) to provide recreation and physical activities which enhance the development of handicapped and retarded persons in terms of coordination, stamina, balance, flexibility, and endurance in general physical health and appearance; 6) to provide a variety of opportunities for investigation and continued application of learning experiences in order to motivate each individual to discover his own latent abilities and potentialities, and encourage him to pursue them outside the program; 7) to provide instruction geared to the needs of clients of all ages who are at various levels of ability in order to give them basic learning experiences that can be carried over into the home, the community, or some kind of employment; and 8) to provide stimulating day activities for children, teenagers, and young adults who, because of their severe handicaps, are not accepted in any school or training program and to assist them in preparing for admission to such schools or programs.

Staff

☐ In addition to the essential skills and professional qualifications needed in community recreation, recreation leaders must also have a number of special qualities, attitudes, and skills, i.e., emotional stability; enthusiasm and a sense of humor; stamina and physical energy; ingenuity, resourcefulness, and creativity; exceptional patience, understanding, and tact; a capacity for accepting limited or slow progress; a strong commitment to health, physical education, and recreation as integral parts of the total educative process; a willingness to experiment with new activities, attitudes, and approaches; and a willingness to perform custodial tasks, such as lifting and handling wheelchairs, feeding, assisting with personal functions, and so on. A leader should not become bogged down in the medical or psychological evaluations of participants

—such presumed limitations may unnecessarily lower his expectations regarding the individual's abilities and potentialities. This is not to say that there should be no consultations with medical and psychological personnel. Staff of the Recreation Center regularly meet with a psychiatrist, a clinical psychologist, social workers, and a rehabilitation counselor to discuss problems relating to specific participants, both at the time of enrollment and periodically thereafter.

Conducting a Dynamic Program

☐ We at the Recreation Center believe that the influence of recreation on learning and development is due not so much to the activities themselves as to the techniques used in conducting them. For example, the leaders use what they call the "as if" approach in planning the programs; that is, they organize an activity "as if" none of the participants were retarded (the extent of retardation is rarely known anyway). In this way, no artificial barriers are set up between any of the resources available in the community and those individuals who just might be reached through them. This also allows for the valuable interaction between the participants and the non-handicapped persons that are encountered in public parks and playgrounds, museums, planetarium, cable car and bus rides, snow trips to Squaw Valley, visits to farms and Las Vegas, and wilderness camping. Another new concept used at the Recreation Center is the grouping of handicapped and retarded participants according to their chronological ages, compatibility, social level, and individual needs, rather than by their handicaps.

Physical activities

All sorts of vigorous physical activities are encouraged. Because many of the children have been confined their entire lives to beds or chairs, the opportunity to ride "piggy back" or to wrestle with the leader on an indoor mat or in a grassy outdoor area helps to improve their muscle tone and coordination.

Visitors

The Recreation Center has many visitors (students, social workers, nurses, community business men and women, and professionals from around the nation and overseas), but their presence nearly every day never disrupts the programs or their participants. On the contrary, both the children and adults enjoy seeing people and in time most of them will approach visitors in a natural and uninhibited manner. They all seem to benefit from such contact with people from all walks of life. These relationships are encouraged and further promote the friendly, cheerful atmosphere that the staff strives to create throughout the Center.

Self-help is emphasized

At all times, both children and adults are encouraged to do as much for themselves as possible. The programs provide many such opportunities for practical experiences of all sorts. For the child who cannot feed himself, eating with those who can helps him to develop this skill. Other activities that actually involve the individual in doing something (even just squeezing water out of a sponge or using an egg beater in soap suds) help to develop a longer attention span, greater self-confidence and self-esteem, and increased manipulative skills. Sensory experiences are made a part of every day's activities, rather than being confined to a special class. Participants learn the taste and smell of various fruits and

vegetables during the preparation of lunches and dinners at the Center; they learn about textures in creative dramatics where the dress-up costumes are made of velvet, silk, and other materials. Sensory experience and general awareness are also encouraged during nature walks at the camp site, the beach, and the zoo.

Program Areas

☐ In each of the Center's five major program areas (children, teenagers, young adults, older adults, and the homebound), a wide range of indoor and outdoor activities is provided, by and large the same activities that would be available in regular community recreation programs for non-handicapped persons in these age groups. Very briefly, these programs can be characterized as follows:

Children's programs

Children's Programs. There are 72 children in the Monday-through-Friday day care program. Activities for these children, who range in age from 14 months to 14 years, include flag ceremonies; share and tell; blackboard play; singing; dancing; rhythms; storytelling; simple crafts; pottery; kitchen utensil play; outdoor play with swings, slides, tree climbing, swimming, and physical fitness; parties; barbecues; day camping; overnight camp-outs; trips; and excursions into the community. The Saturday program includes 80 mentally retarded and physically handicapped children who are enrolled in school. Their activities are similar to those of the day care children and include eight weeks of day camping and one week of resident camping in the summer.

Teenagers' program

Teenagers' Program. Many of the 98 teenagers in this program are in school, others have been dropped from school, and some have never been accepted in any school. The program for them consists of after school, evening, all-day, and weekend activities such as rock dancing; guitar playing; singing; beach, pizza, and holiday parties; fishing; bowling; boating; swimming; camping; and physical fitness.

Young adult program

Young Adult Program. Most of the individuals in this program have recently been released from state institutions and placed with "caretaker" foster families. Over the last four years, approximately 300 young adults have joined the program and the current waiting list is 49. These severely retarded and handicapped people attend all-day and evening programs which are held three times a week. Their favorite activities include physical fitness, music appreciation, club groups, personal grooming, cooking, public speaking, rock dancing, bowling, swimming, camping, and trips to museums, baseball games, theaters, and restaurants.

Older adult program

Older Adult Program. A large number of these physically handicapped, but not retarded, individuals come to the Recreation Center from a nearby home for the aged. They enjoy a wide variety of entertainment, cultural and instructional activities, and excursions of many kinds.

Homebound recreation

Homebound Recreation. This program, which is conducted by two full-time staff members and an average of five field work students and volunteers, is designed to provide recreational activities to anyone who cannot be transported to the Recreation Center. Some of these persons are merely recovering from surgery, while others are physically or men-

tally unable to travel or participate in group activities. Through the use of a Center-owned bus, equipment and supplies can be taken to these individuals so that they may participate in table games, arts and crafts, book discussions and reviews, music appreciation, adapted physical fitness exercises, general grooming, and so on. Occasionally the bus is used to transport them on trips and excursions into the neighborhood and community.

Atmosphere and the Physical Site

☐ While the attitudes and approach of the staff are essential to the creation of a warm and friendly atmosphere, the physical appearance and practicality of the site are also very important. The removal of barriers to free and easy movement and the addition of color and decorations contribute greatly to the kind of use to which a building can be put and to the success of what is attempted there. A relaxing milieu, but one that also provides a variety of sensory stimulation, must be pursued and maintained. We have found also that large open rooms and an emphasis on outdoor activities play a crucial role in the overall developmental progress of children who have been confined in cribs or kept indoors for most of their lives. Highly visible, though perhaps not permanent, improvements in behavior are often produced immediately.

Transportation

☐ The provision of total transportation in recreation services for severely handicapped and retarded children and adults is a new idea for most agencies. This service, however, is essential to the success of any year-round program of activities. The Center owns and operates 10 buses, all of which have been donated. They are equipped with the necessary straps and harnesses for holding bedfast children and adults and are in operation six days each week from 8:00 a.m. to 11:30 p.m. A full-time transportation foreman and 16 drivers work on day and evening shifts. The drivers are carefully selected not only for their safe driving practices but also for their special abilities in working with severely retarded and handicapped persons; all must hold a valid chauffeur's license and a Red Cross First Aid Certificate. A transportation aide supervises the children at all times on their trips to and from the Center. All participants are picked up at their homes or schools to attend programs for which they are scheduled and then returned to their homes. Transportation is also provided for trips and excursions into the community and for all camping programs.

Program Funding

☐ There are at present a wide variety of sources for financing recreation programs in a community setting. Funding is available, for example, under Title IV, Aid to Families with Dependent Children, for programs serving children up to 18 years of age and under Titles XIV and XVI, Aid to the Totally Disabled, for those over 18. Such funding covers 75 per cent of the costs, with the agency supplying the remaining 25 percent in matching funds. Municipal recreation departments can often use their facilities as "in kind" for matching funds. The Recreation Center for the Handicapped is currently receiving matching funds in the form of a subsidy from the San Francisco Recreation and Park Department on a contractual

(Continued on page 58.)

Community Resources Used by the Rehabilitation Teacher

SUZANNE JOHNSON

Miss Johnson is a rehabilitation teacher with the Division of Services to the Blind, Michigan State Department of Social Services, Kalamazoo.

One of the characteristics of agencies serving the blind in the past has been their reluctance to utilize resources within the community that are available to all citizens. This hesitation is caused and perpetuated by a number of factors: the client's apprehension that he might not be accepted by the outside world; fear on the part of agency staff that untrained persons would not know how to cope with applicants who are blind; and the belief on the part of the community that such persons are better off within the confines of agencies serving the blind.

Expanding Services

☐ During the past few years there have been changes in the thinking of many identified with this field and a variety of experiments have been tried: sending blind children to public schools, using home economists and other resource persons to assist blind homemakers, and assigning volunteers to an ever widening range of programs for all ages. This trend has stemmed from the growing realization that if blind clients are to become a part of the community, they must come in contact with persons in the community and participate in community activities. Finally, as clients have sought wider educational experiences, more job opportunities, and a more varied social life, it simply has not been possible for any one agency to meet all their needs.

Meeting various needs

As a rehabilitation teacher, this writer has had a number of experiences utilizing community resources during a recent one-year period. (In Michigan, when a rehabilitation teacher feels a client can benefit from a specific resource, this is proposed to the counselor in the form of a recommendation. If the counselor is in agreement, the recommendation can then be acted upon.) Briefly, these resources can be divided into the following categories: 1) those which serve a vocational or educational need; 2) those which meet some basic human need, such as clothing; and 3) those which meet a social or recreational need. All people have all of these needs to one degree or another sometime during their lifetime and there is no reason why a person who is blind should be deprived of any such resources that are available in the community. Cooperation between specialized agencies and other resources can, therefore, greatly expand the service to be rendered, while at the same time giving the resource persons an opportunity to learn about agencies serving the blind and about some of the things which blind persons can learn to do.

Educational Resources

☐ Vocational or educational resources can assist the client in acquiring a new vocational skill or in improving his or her skills, including homemaking. In some cases, hobbies or other studies which might lead to employment at a future time are involved even though that may not be the immediate objective.

Adult education courses

One of the resources utilized during the 12-month period being surveyed was adult education courses. One client took academic courses leading to a high school diploma; a geriatric client with useful vision enrolled in sewing class; another was assisted by the home teacher with English skills so that he could make faster and more effective progress in braille and typing. These programs all led directly either to additional academic knowledge or to new skills. A group experience was also provided in two instances.

Federal Cooperative Extension Services

The Federal Cooperative Extension Services were also used. Extension personnel, after orientation by the rehabilitation teacher, gave instruction in basic homemaking skills. Assistance in shopping for both food and clothing was provided. Meal planning was emphasized because many are on special diets due to numerous health problems. Diabetics who have limited financial means often need help in learning about budgeting and food selection. Persons living alone on less than adequate budgets often can be greatly helped if kept abreast of the latest foods, methods of preparation, and techniques in budgeting. Sessions taught by extension personnel supplemented those provided by the rehabilitation teacher.

Volunteers

A volunteer, recruited and trained by the Red Cross, was used to tutor a client who lacked basic academic skills. A site for the tutoring was provided by a local private agency. This service required close co-operation between the rehabilitation teacher, the resource teacher who provided supplies and material, and a number of other community services.

Referrals

In addition to these resources, which are not normally thought of as offering services to blind persons, a number of clients were referred to specialists within the field of work for the blind. This included four referrals for mobility training, three for additional sessions in braille instruction (beyond what the rehabilitation teacher could provide), one referral to a braille transcriber, the use of the local resource teacher, and three referrals to the low vision clinic.

There were also a few instances of special resources for highly individualized cases. For example, a former client who was skilled in braille was recruited to provide additional help for a client just learning braille. A local band director was asked to help a blind musician who could not decipher certain musical arrangements.

Other gains

Through the creative use of such resources as these, the rehabilitation teacher can help to broaden instruction, to create additional sessions, and to open doors enabling clients to work with additional people and to form new and varied associations and relationships. A number of these efforts specifically contribute to a move away from the idea of trying to be all things to all people; some of these help to determine whether or not individual resource people are able to work with visually handicapped clients—after initial orientation and under the supervision of the rehabilitation teacher.

Supplying Material Needs

☐ Blind persons, like all of us, may sometimes be in basic financial need to the extent that they are unable to embark upon any type of educa-

tional program. The Salvation Army and the Citadel of the Seventh Day Adventist Church can be used to provide clothing and other essentials. During the period of this survey, two clients obtained a coat, cap, gloves, galoshes, dresses, shoes, dishes, blankets, and sheets. One who benefitted from this resource was a client taking a mobility course and going to night school. Both organizations can supply these provisions without red tape, requiring only that the client give his word that they are needed.

Recreation Resources

☐ Resources which can be utilized for recreational purposes include those which provide some kind of instruction in addition to purely social activities. During the 12 months of this survey, one client took swimming lessons at the Y.M.C.A. (the Red Cross and a local service agency both provided transportation to and from the Y). A volunteer was used to teach crocheting and knitting twice a week to one client. A craft shop assisted another client in selecting materials and patterns as well as providing instruction. Four persons were successfully integrated into social groups, including two groups only for elderly persons and a women's church group. A fourth group, which was joined by a partially sighted client, was devoted to various projects, such as sewing and canning, as well as socializing. Such groups are often found in rural areas.

Volunteers

Volunteers can be used in a number of ways, some of which have already been described. One volunteer, for example, visited with and aided a client by providing transportation to the grocery store, doctor, and other places, as well as reading mail and the directions on packages. Another was used as a friendly visitor in a nursing home after a case had been closed by the rehabilitation teacher.

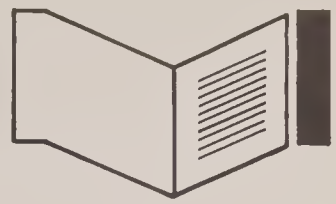
Summary

☐ It is hoped that this brief description of community resources which were utilized in one state district by one rehabilitation teacher during a single year will suggest further possibilities to others. These resources generally fall into three categories, educational, material, and recreational with occasional overlapping (certain recreational pursuits for example, also involve new skills). No attempt has been made to determine which resouces were most successful or useful; the intention has simply been to provide an illustrative survey of resource possibilities.

Recreation for Severely Handicapped Persons in a Community Setting—*Continued from page 55.*

basis. Other legislation dealing with the mentally retarded, mentally ill, and other handicapped groups also often provide for the funding of service programs. Agencies and foundations of various sorts can be approached for special grants. Finally, voluntary contributions can be solicited from the general public. (For further information on this subject, see "Suggested Resources for Financing Community Recreation Programs for the Handicapped and Retarded," by Janet Pomeroy. Recreation Center for the Handicapped, Fleishhacker Pool Building, Great Highway near Sloat Boulevard, San Francisco, California 94132.)

Current Literature



Blind X-Ray Technicians Outperform Those With Sight. *Cross-Reference* (American Hospital Association, 840 N. Lake Shore Drive, Chicago, Illinois 60611), Vol. 1, No. 8, August 1971, pp. 10-11. Brief report on a six-month training program in medical and industrial x-ray processing, sponsored jointly by the South Carolina Commission for the Blind and the Commission for Technical Education. Additional information about the program can be obtained by writing to James Ohnysty, Director, Radiologic Technology Dept., Technical Education Center, Box 5616, Station B, Greenville, South Carolina 29606.

Workshops for the Handicapped in the United States, by Nathan Nelson. Charles C Thomas (301-327 East Lawrence Avenue, Springfield, Illinois 62703), 1971, xiv, 466p. $16.00. A history of the role of workshops as they have been developed to meet the needs of disabled and disadvantaged persons.

Deployment of Reading Machines for the Blind, by Howard Freiberger. *Bulletin of Prosthetics Research* (available from Superintendent of Documents, U.S. Printing Office, Washington, D.C. 20402), BPR 10-15, Spring 1971, pp. 144-56. History of reading machines over the past 50 years with emphasis on the portable machines, prototypes of which have been developed under contracts from the Veterans Administration.

Sailing Blind, by Charles E. Leonard. *Yachting* (Yachting Publishing Corp., 50 West 44th Street, New York, New York 10036), Vol. 130, No. 2, August 1971, pp. 62-63, 90, 92. The author, an engineer by profession, had many years of sailing experience before he became blind in the fall of 1964. He describes how he has adapted his sailing techniques and gives details of the audio compass he has devised.

You Don't Have to See to Manage a Home, by Caroline Jenkins. *Tennessee Public Welfare Record* (Department of Public Welfare, 410 State Office Building, Nashville, Tennessee 37219), Vol. 34, No. 5, October 1971, pp. 102-5, 120. The author, a counselor at A. P. Mills Industries for the Blind in Memphis, Tennessee, outlines their 10-week home management course for blind housewives.

Working—Just Like All the Rest, by Samuel L. Wall. *Tennessee Public Welfare Record* (see address above), Vol. 34, No. 5, October 1971, pp. 111-14. The author, who became blind as a small child, relates his school and work experiences. Since the fall of 1970 he has been a machine tender for the Rockwell Manufacturing Company. His success has encouraged company plans to give job opportunities to other blind persons.

Farming by Touch, by Jim Lasley. *The Lion* (Lions International, York & Cermak Roads, Oak Brook, Illinois 60521), Vol. 54, No. 5, November 1971, pp. 17-18. The story of how Allen Iseley, a legally blind farmer, works his 250-acre tobacco farm in North Carolina.

Can You Imagine Laughter Without a Smile? by Murray Dubin. *The Lion* (see address above), Vol. 54, No. 5, November 1971, pp. 14-16. The author relates his experiences during a 3-hour period of simulated blindness at a YMCA camp for the visually handicapped. He attempted archery, bike riding, softball, basketball, etc., as well as more ordinary activities such as eating and walking.

Butterflies Are Free, a comedy in two acts by Leonard Gershe. Samuel French, Inc. (25 West 45th Street, New York, New York 10036), 1969, 83p. $1.50. Acting edition of the recent Broadway hit play about a young blind man.

Blind People Can Do More Than Tread Water, by Robert Turner and Arturo Biblarz. *Braille Monitor* (National Federation of the blind, 2652 Shasta Road, Berkeley, California 94708), November 1971, pp. 920-22. In the summer of 1971 a group of 10 blind students from the United States visited Sweden at the invitation of a Swedish organization for the blind and took a course of instruction in scuba diving. The authors report on the techniques involved in adapting scuba diving as an activity for the blind.

—M.M.R.

Additional Listings

Statistics on Blindness in the Model Reporting Area, 1968. Information on the prevalence and incidence of blindness in the 16 states which make up the Model Reporting Area for Blindness Statistics (MRA), compiled by the Office of Biometry and Epidemiology, National Eye Institute. Single copies of the booklet are available without charge from the Information Office, National Eye Institute, Bethesda, Maryland 20014. Multiple copies may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for 65 cents a copy.

Einstein's College Entrance Guide 1972-73, by Bernice W. Einstein. Grosset & Dunlap Publishers (51 Madison Avenue, New York, New York 10010), 8th revised edition, $4.95. Contains a chapter of advice for handicapped students and their parents on educational opportunities, including information about investigating and choosing a college; applying for entrance and scholarships; counseling; and entrance examinations. The book also lists colleges and their special interests, programs, and requirements.

Handwriting Manual—A Reference Manual for Rehabilitation Teachers Working With the Adult Blind, by Illinois State Community Services for the Visually Handicapped. Braille edition. Available from Mrs. Berit Yank, 737 North 75th Street, Omaha, Nebraska 68114. Basic manual, $3.50; supplements (containing Lessons 3-22), $1.50 per unit. The ink-print edition of this manual was published in 1968 by Western Michigan University. The publication of this braille edition is being sponsored by the Mid-American Conference of Rehabilitation Teachers.

News in Brief

■ A constitution and by-laws were ratified on September 10, 1971, by the newly formed New York State Association of Orientation and Mobility Specialists. This interest group was organized to promote and insure professional standards in mobility instruction through the cooperative exchange of knowledge and ideas pertaining to the field. Officers elected at the meeting include William Wiener, chairman; Rachel Berg, vice-chairman; and Carol Share, secretary-treasurer. Membership in the organization is open to anyone having an interest in orientation and mobility. There are several categories of membership.

■ G. K. Hall & Co., an international publisher of reference materials for libraries, recently announced that it has begun a program of publishing books in large print editions. The first series includes 10 current best-selling books, both fiction and nonfiction. Plans are for the issuance of approximately 70 titles each year. Further information about this series is available from G. K. Hall & Co., 70 Lincoln Street, Boston, Massachusetts 02111.

■ The UWB Votegetter is a device which allows blind persons to vote on secret ballots in organization or club elections. The individual places his hand inside the machine and presses one of four levers (marked A, B, C, and D in braille). He then turns another lever which registers the vote on the counters of the machine. After the voting is completed, a panel is removed from the back of the machine so that the totals (which are in very large numbers) can be read and then reset to zero. Potential purchasers of the machine are invited to write to UWB Future Planning Committee, 7216 Arlington Drive, Richmond Heights, Missouri 63117, for more information.

■ A two-year project focused on the assessment of the potentials and needs of deaf-blind children in Ohio has been jointly undertaken by the Nisonger Center of Ohio State University and the Division of Special Education of the Ohio State Department of Education. The project, which is directed by Dr. Joseph J. Parnicky, will concentrate on children who present evaluation and proscription problems that exceed available resources in the child's local community. A significant number of the children to be seen were affected by the rubella epidemic of the mid-1960's. The evaluation process will also be used in extending the training of practitioners from 14 colleges and schools on the campus.

Each deaf-blind child selected for study will be brought to the Center for a period of three to four days. Project funds will cover the expenses of the child and his parents, as well as the teacher or other community resource person closely involved with the child's development. The project is supported by a grant from the Bureau of Education for the Handicapped, U.S. Office of Education, with additional funds from the federal Maternal and Child Health Services office.

Appointments

■ Minneapolis Society for the Blind: **Mrs. Marie S. Williams,** supervisor of social services.

■ U.S. Social and Rehabilitation Service, Region III, Philadelphia: **Francis L. Warren,** regional commissioner.

■ Addie McBryde Memorial Rehabilitation Center for the Blind, Jackson, Mississippi: **Charles B. Powell,** supervisor of instructional services.

■ American Academy of Ophthalmology and Otolaryngology: **Howard House, M.D.,** president (by election).

■ American Foundation for the Blind, New York City: **Harvey Edward Wolfe,** specialist in vocational education.

Awards

■ Western Pennsylvania Public Health Conference Award: **Vision Screening Training Corps,** Pennsylvania Association for the Blind, Pittsburgh Branch.

Coming Events

February 27-March 3 Society of Contemporary Ophthalmology, Winter Meeting, Hollywood, Florida.

March 16-18 California Transcribers and Educators of the Visually Handicapped, 13th Annual Conference, North Hollywood, California.

March 19-24 Council for Exceptional Children, 50th Annual International Convention, Washington, D.C.

March 26-30 American Personnel and Guidance Association, Annual Convention, Chicago.

April 2-7 Ninth Pan American Congress of Ophthalmology, Houston.

April 5-6 American Geriatrics Society, Annual Meeting, New York City.

April 5-8 American Orthopsychiatric Association, 49th Annual Meeting, Detroit.

April 14-15 Association for Education of the Visually Handicapped, Midwest Regional Conference, De Kalb, Illinois.

April 17-21 European Society of Ophthalmology, Fourth Congress, Budapest, Hungary.

April 24-28 Association for Research in Vision and Ophthalmology, Spring Meeting, Sarasota, Florida.

May 28-June 2 National Conference on Social Welfare, 99th Annual Forum, Chicago.

May 29-31 American Ophthalmological Society, 108th Annual Meeting, Hot Springs, Virginia.

June 4-8 Special Libraries Association, Boston.

June 11-15 Medical Libraries Association, San Diego, California.

June 22-25 Optical Manufacturers Association, Optical Fair, St. Louis.

June 25-29 Association for Education of the Visually Handicapped, 51st Biennial Conference, Miami Beach.

June 29-July 1 Lions International Convention, Mexico City.

July 2-7 International Association of Gerontology, Ninth International Congress, Kiev, U.S.S.R.

July 26-August 2 International Council of Educators of Blind Youth, Fifth Quinquennial Conference, Madrid, Spain.

August 13-19 International Council on Social Welfare, 16th International Conference, The Hague, Netherlands.

August 27-September 1 International Society for Rehabilitation of the Disabled, 12th World Congress, Sydney, Australia.

September 11-13 Gerontology Around the World, 25th Annual Conference on Aging, University of Michigan, Ann Arbor.

October 1-7 Employ the Handicapped Week.

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There have been a variety of different uses of Soundsheets for blind and physically handicapped people. Last year the State of Illinois used Evatone Soundsheets to inform blind people of the proposed changes in their state constitutions. In other states rehabilitation agencies are using Evatone Soundsheets for bulletins and newsletters. Publishers, educators and advertisers have successfully used Evatone Soundsheets for almost 10 years.

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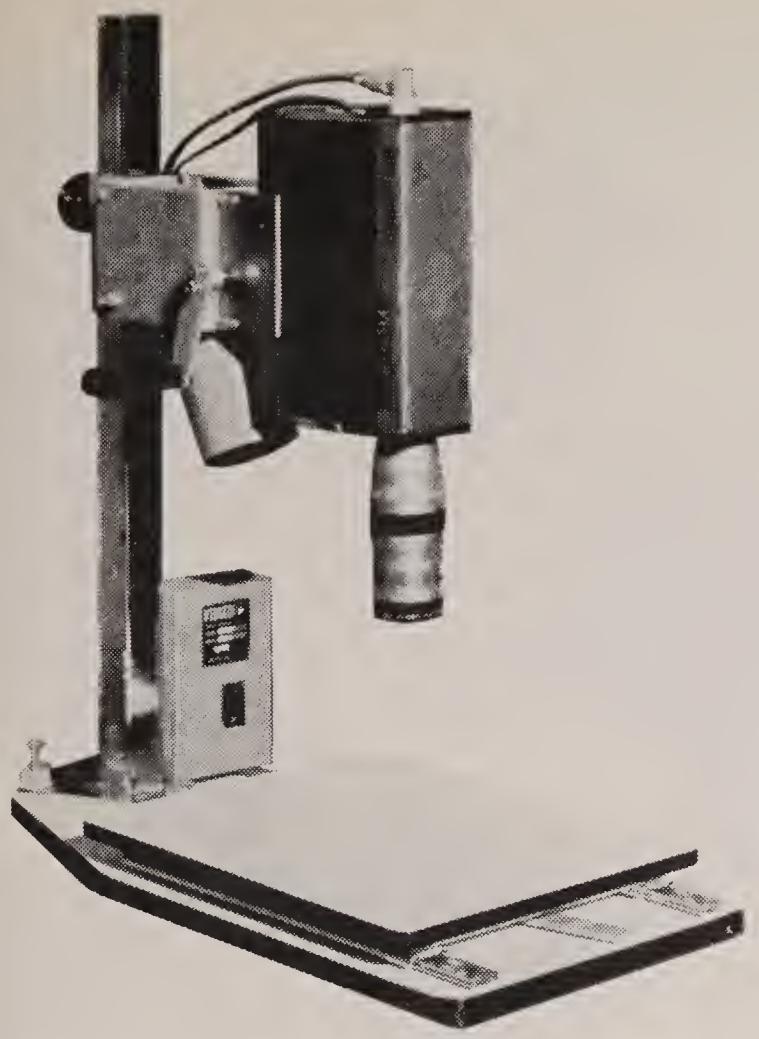
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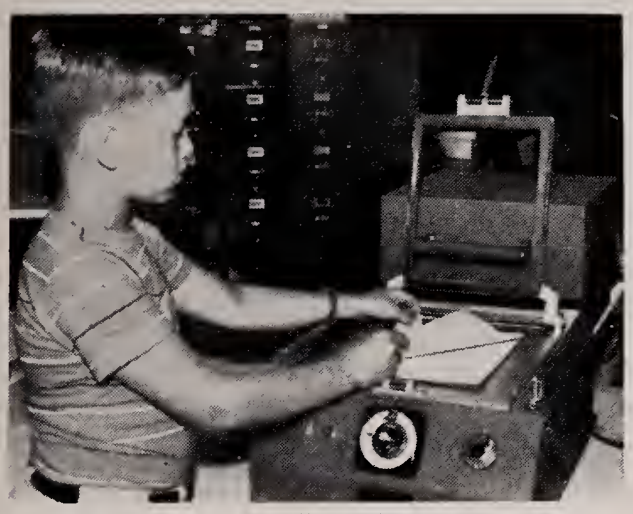
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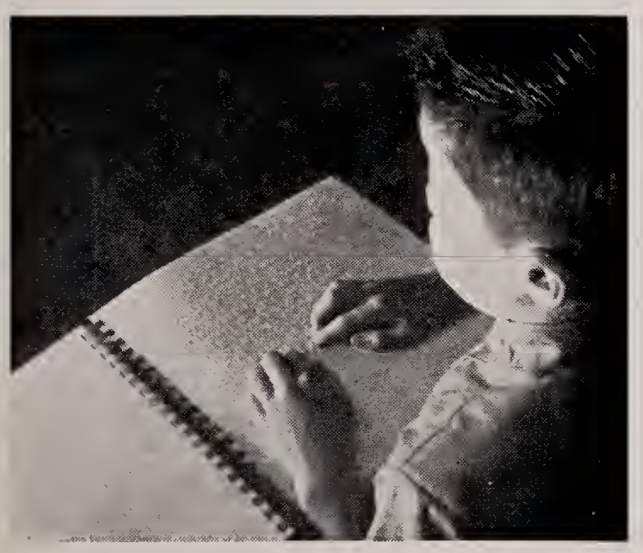


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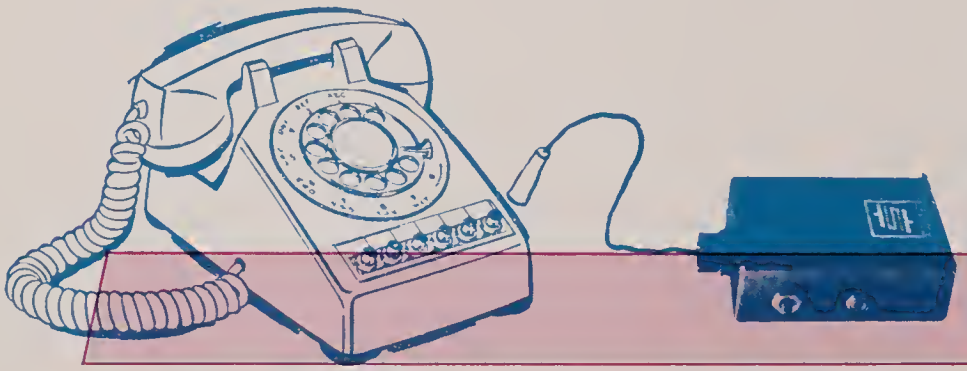
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Robert Dantona and *Peter J. Salmon*

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The Current Status of Services for Deaf-Blind Persons

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INTRODUCTION

The rubella epidemic of 1964-1965 stimulated the U.S. Congress to develop legislation to provide a continuum of services for deaf-blind persons through the Regional Centers for Deaf-Blind Children and the National Center for Deaf-Blind Youths and Adults. The information offered below identifies, in broad terms, the main functions of the two programs and the conditions of eligibility for service under each of them so that individuals and organizations wishing to obtain service for deaf-blind children, youths, or adults will have a general knowledge of the services available to them and be able to determine the program to which they might be appropriately referred. It should be noted that many of the details of each program (the specific areas of responsibility, current operation, plans for future developments, etc.) have not been included.

CENTERS AND SERVICES FOR DEAF-BLIND CHILDREN

The ten Regional Centers for Deaf-Blind Children, each headed by a regional coordinator and providing services for five to seven states, were established under the provisions of P.L. 91-230, the Education of the Handicapped Act. Their services are offered *to children who have both auditory and visual impairments, the combination of which causes such severe communication and other developmental and educational problems that they cannot properly be accommodated in special education programs either for the hearing handicapped child or for the visually handicapped child.* In addition, these centers are responsible for seeking out those deaf-blind children who are not receiving services, for developing consultation and training programs to help both parents and teachers understand and work with these children, and for promoting the development of new programs and services for deaf-blind children.

Registeries

Teams of professionals in each region have, through intensive investigations, helped to develop comprehensive registries of deaf-blind children. To date, 3,600 children have been located throughout the United States. Of these, approximately 1,600 were at home and not receiving any of the services available to them; about 800 others were known to be in state institutions for the mentally retarded.

Program Development

☐ All of the coordinators are concerned with each child's diagnostic and educational assessment, with programs which help each child in his adjustment and education, and with the development of consultation and training programs for those working with these children. In

response to this concern, they have demonstrated new types of programs for the education of deaf-blind children. They have developed summer training and assessment programs and new clinical tools for professional and related persons who work with deaf-blind children. They have instituted means for disseminating both information and materials that seem to be of the greatest use in this field.

Increased services

The Regional Centers have to date placed about 1,200 children, youths, and adults in a variety of educational, training, and habilitative programs. This has been accomplished largely through the efforts of the Regional Centers to provide comprehensive regional programs by coordinating the services offered by existing agencies and by establishing, with federal funds, new programs for these children when they are needed. An example of the pioneering efforts stimulated by the regional approach to programming is the Crisis Care Centers, short-term residential treatment facilities for both the deaf-blind child and his parents. Intensive work with the child here results in an assessment of his educational needs and his ability to utilize services. His parents are provided with training and individual counseling. As a result of this approach, the child and his parents are able to return quickly to their home community and to utilize less intensive and costly programs there. After this "emergency" treatment at a Crisis Care Center, follow-up services are provided to insure that continued progress is achieved.

Crisis Care Centers

THE NATIONAL CENTER FOR DEAF-BLIND YOUTHS AND ADULTS

The Industrial Home for the Blind

The National Center for Deaf-Blind Youths and Adults, which was authorized by the 1967 amendments to the Vocational Rehabilitation Act, may serve any deaf-blind youth or adult who resides in the District of Columbia, in any of the 50 states, or in any of the possessions or territories of the United States. It was established about two years ago and is operated by the Industrial Home for the Blind, Long Island, New York, under an agreement with the U.S. Department of Health, Education, and Welfare. In broad terms, its purposes are: to provide rehabilitation training for deaf-blind youths and adults based upon assessments of their needs, interests, and capacities; to conduct research designed to minimize the handicapping effects of deafness and blindness; to provide professional and technical training for new and prospective workers in the field of service to deaf-blind youths and adults; and to promote understanding of deaf-blindness in both professional and lay communities. Although at present the Center is housed in temporary and rather limited facilities a specially designed, permanent headquarters, which will allow for a major expansion of its services, is expected to be completed within the next two years. The National Center also operates regional offices to assist state and local agencies in serving deaf-blind persons in their home communities whenever

feasible, and to refer individuals to the National Center for a full program of training when that is indicated.

Admission Policy

☐ Under the program of the National Center for Deaf-Blind Youths and Adults, services are offered to *youths and adults who have both substantial visual and hearing losses such that the combination of the two causes extreme difficulty in learning.* Because only a very limited number of clients can be admitted to the temporary headquarters of the National Center for comprehensive evaluation and training, it is necessary to employ a more restrictive definition of deaf-blindness for determining eligibility for such admissions in order to insure that those who have the greatest need for the available services receive first priority. The restrictive definition, however, does not limit eligibility for the many services that can be offered to deaf-blind youths and adults in their home communities in cooperation with state and local rehabilitation agencies. Any youth or adult who may appear to be "deaf-blind" on the basis of the above definition should be referred to the appropriate office of the National Center for Deaf-Blind Youths and Adults.

Service to youths

The delivery of services for deaf-blind children on the one hand and for adults on the other is clearly bridged by the inclusion of the word "youths" in the title of the National Center for Deaf-Blind Youths and Adults. This makes it possible to provide continuous service from infancy to adulthood and, thereby, avoid the regression in severely handicapped young adults which so often sets in when the transition from education in childhood to rehabilitation in adulthood is interrupted by a prolonged period of idleness.

Referring teenagers

It is most important that deaf-blind children make the fullest possible use of education both available to them and rehabilitation services. With this in mind, a deaf-blind youth in his middle or late teens should ordinarily be referred to the coordinator of the Regional Center for Deaf-Blind Children serving the state in which he resides. The Regional Center will then determine the feasibility of educational placement. Should it be decided that educational placement is not feasible, the individual will then be referred to the National Center for Deaf-Blind Youths and Adults.

Over 21 years of age

Any deaf-blind person over the age of 21, as well as any younger deaf-blind person who is known to have made the fullest possible use of the educational opportunities available to him and who might benefit from rehabilitation services, should be referred to the headquarters of the National Center for Deaf-Blind Youths and Adults or to the regional office of the National Center serving the state in which he resides. (Regional offices have not yet been established in all parts of the country. As the program develops, it is expected that the addition of new regional offices will make it possible for each one to serve a smaller region of the country than at present.) Referrals to the regional offices of the National Center should preferably be made through the rehabilitation agency of the state in which the deaf-blind person resides or, at least, with the consent of that agency.

A FINAL WORD

The Regional Centers for Deaf-Blind Children and the National Center for Deaf-Blind Youths and Adults have recognized the importance of joining their efforts to provide a continuum of special education and rehabilitation services for the deaf-blind individuals they serve. Procedures for assuring the free exchange of information and reciprocal professional support between the two programs are being expanded and refined. In the short time that the programs have operated, important strides have been taken toward providing deaf-blind persons of all ages in this country with opportunities for personal fulfillment and for contributing to their families and communities equal to those enjoyed by their non-handicapped peers. The success already achieved offers an exciting promise of even greater achievements in the near future. The cooperation of all individuals and agencies who can help deaf-blind persons to attain their rightful place in society is urgently solicited by both programs. Requests for further information and referrals of deaf-blind persons for service are welcomed.

Cooperation

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A New Technique Using Braille to Teach Print Reading to Dyslexic Children

BOB CRONIN

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There are three basic ways of reading, or rather of receiving language via the senses: reading printed words via the visual sense, hearing spoken words via the auditory sense, and feeling tactual words via the sense of touch. Today, print, recorded, and braille materials are available to and successfully used by different types of students. Sighted children are usually only taught reading through the use of the printed word. Those children whose vision is usually unimpaired (though not necessarily) but who have severe reading disabilities are also traditionally limited to the printed word. In these individuals, called dyslexics, the ability to understand and interpret visual symbols is impaired. Why not use a mode of perception that is not impaired in these children to help overcome the reading problems resulting from the attempted use of the impaired mode? Specifically, why not use braille to teach reading to dyslexic children?

Transference of Informational Modes

☐ Braille has many advantages for this purpose, for not only is it the best form of tactile reading so far developed, but it is, like the printed language, spatial in nature (as opposed to the spoken language, which is temporal). There is, in addition, what might be called a "transference of informational modes," that is, if information is presented simultaneously in both the mode known to the subject and in another mode there will be a transference of understanding from the one to the other. This principle is evident in newly blinded adults who, when they are first learning braille, associate each new braille letter with their memory of its printed counterpart. Once the braille code is learned, the visual images of the printed letters are no longer needed and are discarded. In applying this principle to the teaching of reading to dyslexic children, the child first learns braille letters tactually (a sensory mode that is usually still intact). Subsequently, by association of the tactual perception of letters and words with their printed counterparts, the child will be able to make the necessary transference and eventually recognize the printed words independently of the tactual ones.

Homer N.

To demonstrate this use of braille, the author's experiences with Homer N., a dyslexic child, will be described. Homer was spending his second year in school by repeating the first grade. His being left back was due entirely to his not being able to learn to read print, for he has above average intelligence, normal vision, and a fairly stable personality. Despite great efforts to teach him, he had only learned one word, his name. It is interesting to note here that despite his lack of skill in reading, Homer had learned a voluminous amount of knowledge. Nevertheless, learning to read is required by the school as it is by

society. Further, Homer's case is not atypical and others like him who can learn information without the printed word must unfortunately meet the same requirement and cope with the same frustrations that he has faced. What happens to these children? Are they admitted to classes for the mentally retarded—even though they are not retarded? Do they drop out of school before their education is completed? What about their parents? Do they try to tutor the child themselves? Do they seek new diagnoses? Do they enroll their child in expensive reading clinics? Too often the answer to each of these questions is in the affirmative and just as often the results are added frustrations. Thus the importance of any procedure or method that might break this tragic pattern and allow at least some of these children to learn to read.

Teaching Braille to Homer

☐ Returning to Homer, it should be noted that he had never read braille before, in fact, he did not know of the existence of a tactile method of reading. The teacher wrote four words in braille at the top of the page and told Homer that the first word was "elephant," a word that Homer had said he wanted to learn. Homer's enthusiasm for learning had never lagged even though his maturational rate had. He learned what the word "elephant" felt like, then he learned what the other three words felt like. The teacher presented the same four words at the bottom of the page, only this time in scrambled order. Homer deciphered the words bilaterally, reading the words at the top of the page with his right hand and reading the newly presented words with his left. In other words, it would appear that Homer's tactile sense was already rather highly developed in compensation for his inability to perceive symbolic material visually.

Learning by touch

There might be some question here as to whether Homer was sight reading the braille (embossed on transparent sheets) or the print (which appeared above the braille letters). Actually, it makes no difference, since they are both systems of abstract symbols, symbols whose meanings are arbitrarily representative of something else. Reading braille by sight is basically the same as reading print by sight. This was not the case with Homer, however, for he had to touch the word to decode its meaning.

Preliminary Results

☐ In examining other children with severe reading problems, this hypothesized transference of informational modes has also occured. If the maturity of a child's visual perception is lagging, he seems to begin to compensate rather quickly in the tactile sense, and perhaps in the auditory sense as well. After Homer's tactile perceptual sense was found to be well developed, teaching him braille was relatively easy. Special materials were prepared using the same reading book as the other children were using, with the braille (as noted above) being embossed on transparent sheets that were then superimposed over the print. This approach was used because Homer could interpret pictures; plus, the use of the regular textbook allowed him to be as much like the other members of the class as possible. The results were overwhelming and he was able to finish the pre-primer in two weeks.

At this point, Homer was ecstatic about having finally found a way to read. He was the braille "expert" in the room, and as far as he was concerned, braille was going to be his principle mode of reading. Naturally, Homer was unaware of the fact that while he was learning more and more braille, his eyes were also being trained to recognize print letters and words. Supplementary materials were prepared again using both print and braille. Although Homer, because of his great intelligence, was now using grade two braille, it should be noted that ordinarily only grade one is used, allowing for an exact letter-by-letter correspondence between the braille and print words.

Homer's reaction

☐ When a second supplementary lesson was introduced, Homer picked up the paper and visually read six of the words on the page. Here, in less than four weeks, the transference from the tactile to the visual mode of reading was taking place. Not only did Homer learn how to read the printed word, but his self-concept began to improve significantly. This improvement is being reinforced by the attitude of his classmates who are as happy as Homer is about his series of successes at school.

Transference

It was suggested that perhaps Homer's progress was due more to the increased amount of instruction he was receiving than in the introduction of braille. This is contradicted, however, by the fact that conventional remedial reading was of no help to Homer and that it was only after reading the letter or word in braille that Homer could read the printed letter or word. Once he fully understands the system of print, braille can be removed as a teaching aid, but since this technique is a new one, it is difficult to estimate exactly when this will occur. Until Homer's reading level is comparable to that of his classmates, Homer will read some books via recordings. (The Division for the Blind and Physically Handicapped of the Library of Congress offers talking book service to dyslexic persons.)

Future course of instruction

☐ The use of braille to help overcome the dysfunction of dyslexia is still in its infancy, but it is hoped that it will increasingly be used along with the many other techniques developed for this purpose. In fact, the use of braille is not recommended for every child with a reading problem, but only for the severest cases and only when conventional methods have failed.

Extending the Use of Braille

Although it would naturally be helpful, it is not necessary for a teacher to know how to read and write braille in order to use the above described technique. Hopefully, more books will be published with both braille and print. Even without such materials, however, this technique can be widely used in remedial reading instruction with the help of the many itinerant teachers of the visually impaired or resource room teachers found in nearly every school district throughout the country. In fact, why could not a similar corps of teachers be trained to provide services for those with severe reading disabilities? Logically, resource room or itinerant teachers could form the core of this group and would use methods at their discretion, depending upon the sever-

Utilizing teachers of the blind

ity of the visual or perceptual problem. According to the National Society for the Prevention of Blindness, there are fewer "normal" blind children entering our schools today than in the past. This means that the itinerant teacher and resource room teacher of the visually impaired are in a perfect position to assume this new responsibility of helping to educate dyslexic children.

Summary

☐ It has been shown that there are definite advantages in using braille as a temporary mode of reading for children with severe reading disabilities. Transference can be seen in a single lesson, and from lesson to lesson. It is the hope that some transference will take place from Homer's experience to other dyslexic children throughout the country.

The Rights of the Mentally or Physically Handicapped

The following concurrent resolution was introduced in the U.S. Senate by Senator Marlow W. Cook of Kentucky with 14 co-sponsors and was printed in the *Congressional Record* on November 19, 1971. While a concurrent resolution has no force as a statute, its adoption by both houses of Congress would indicate at least a philosophical commitment to the ideas expressed therein. The resolution was referred to the Senate Committee on Labor and Public Welfare.

Senate Concurrent Resolution 52

Whereas the universal declaration of human rights, adopted by the United Nations Commission on Social Development, proclaims that all of the human family, without distinction of any kind, have equal and inalienable rights of human dignity and freedom; and

Whereas the declaration of the rights of the child, adopted by the United Nations Commission on Social Development, proclaims the rights of the physically handicapped child to special treatment, education and care required by his particular condition: Now, therefore, be it:

Resolved by the Senate (the House of Representatives concurring), That Congress recognizes the following rights of mentally or physically handicapped persons:

(1) A mentally or physically handicapped person has the same basic rights as another citizen of the same state and same age.

(2) A mentally or physically handicapped person has the right to proper medical care and physical restoration and to such education, training, rehabilitation, and guidance as will enable that person to develop his ability and potential to the fullest possible extent, no matter how severe his or her degree of disability.

(3) A mentally or physically handicapped person has a right to economic security and to a decent standard of living. He or she has a right to productive work.

(Continued on page 80.)

Blind Children Integrated in Classrooms With Sighted Children: A Sociometric Study

REGINALD L. JONES, PH.D.
KAREN LAVINE, M.A.
JOAN SHELL, M.A.

When this study was conducted, Dr. Jones was professor of psychology and education, and Miss Lavine and Miss Shell were U.S. Office of Education graduate fellows in blind and partially seeing, all at The Ohio State University, Columbus. At present, Dr. Jones is chairman, Department of Education, University of California, Riverside; Miss Lavine is a federal employee in Columbus, Ohio; and Miss Shell is a public school teacher in Michigan.

Children spend significant portions of their lives in classrooms and much of their interaction with non-sibling peers occurs within the school context. Since the school, therefore, is a primary socializing agent during the child's formative years, it represents an ideal setting for studying certain relationships between blind and sighted children, relationships that it does not seem unreasonable to speculate play a direct role in shaping the blind child's self-concept. The present study, utilizing sociometric methods, deals with the acceptance of blind children intergrated in classrooms with sighted children.

Little is known about the acceptance of blind children by sighted children in school settings. A comprehensive survey of the literature reveals, for example, only a single study, reported some 13 years ago, concerning the attitudes of sighted children (in this case, preschool and kindergarten) toward their blind classmates.[10] A recent survey devoted to the socialization of blind children reported no empirical studies in this area.[6] In spite of the obvious value of such work—from the perspective of the blind child's adjustment as well as of school planning—it appears that research and experimentation in this important area is all but non-existent.

The Present Study

☐ The principal question of the present investigation involves the acceptance of blind children by their sighted peers in the classroom in social, academic, and physical activities. A secondary question deals with the sociometric characteristics of sighted children who show a high degree of acceptance of their blind classmates.

"Interaction strain"

It should be noted that the present investigation is an extension of a laboratory study by Jones[5] in which naive college students participated in a learning experiment in the presence of a blind or a sighted confederate. The results of this study revealed no differences in actual learning or association when the naive subject was in the presence of the blind or the sighted confederate; most perceived, however, that their performance was impaired when the second participant was a blind confederate. These findings support those of several studies on attitudes toward the disabled in which some form of a dimension called "interaction strain" was identified.[7,8,9] The central theme of the interaction strain construct is that the non-disabled feel some discomfort in face-to-face relationships with disabled persons. A consequence, in many instances, is that interactions with the disabled are avoided or are, at

The authors are indebted to Victor Naples, education consultant for the crippled and visually handicapped, Ohio State Department of Education, for providing information about school district programs and for his counsel in several areas of the study.

best, abortive in nature, thus minimizing the opportunity for the full social development of the disabled person. The subjects of the above-cited investigations were in high school and college settings. How and to what extent the interaction strain phenomenon exists among school children in the elementary grades, then, is unknown and represents a focus of the present study.

Subjects

☐ The subjects of the present study were 20 blind children (11 boys and 9 girls) in grades 4-6 enrolled in a 17 classrooms in six Ohio school districts. All used braille; all were integrated in a regular classroom with sighted pupils for at least half of the school day. According to teacher reports, the blind children were from varied socio-economic backgrounds, and their academic achievement ranged from below to above average. Seven pupils were identified as being at their class age and class academic level; four were at the class age level, but were working above the class academic level; four were above the class age, but below average in academic performance; and five were at the class age level, but below the class academic level. Also enrolled in the 17 classrooms with the blind children were 477 sighted children who, along with the blind subjects, comprised the groups on whom the data of the study were collected.

Questionnaires

Data on the status of the blind children and those who listed the blind among their first three choices were collected using a specially constructed sociometric questionnaire. The initial version of the questionnaire included 15 items in the social, physical, and academic areas. Pretesting in a variety of classrooms, however, led to modification and the inclusion of the following directions and items: "Directions: For each question write the names of three people if you can. Try to answer every question. You may use names more than one time. Your choice must be from people in this room, including those children who are absent. Give their first names and last initial. Make your choices carefully so the answers will be the way you really want them. Your choices *will not be seen* by anyone except me (teacher)." The final 10 items were: (1) I would invite the following children for a party at my home; (2) I would like to eat my lunch with; (3) I would be happy if this person were absent from school; (4) I would choose as the captain of the kickball team; (5) I would like to play on the playground with; (6) I would choose last as a team member for a running game; (7) I would like to work on a social studies project with; (8) During an arithmetic lesson, I would not like to sit next to; (9) I would like to have help me with my reading lesson; (10) If your teacher had to choose some students to represent your class in an assembly program, which students should she choose? The classroom teacher also completed a special questionnaire in which certain class descriptive demographic data and specific information on the academic, social, and physical characteristics of the blind child(ren) were given.

Seeking Out Subjects

☐ The directors of special education in the 20 Ohio school districts having programs for visually impaired children were asked to participate

in the study. There was no response from one director, five declined the invitation to participate, and 14 agreed to participate. However, only six districts met the criterion for inclusion, i.e. had blind children in grades 4-6 integrated at least half of the day in regular classrooms.

Administering questionnaires

As indicated previously, 20 blind children enrolled in 17 different classrooms were included in the study. The teachers of each class received a letter explaining the nature of the study, sufficient printed sociometric questionnaires for the blind children, and the aforementioned teacher questionnaire. The forms were designed to be completed within 30 minutes of classroom time. Completed materials were returned to the investigators who scored and analyzed the responses.

Analysis of data

The median value for each sociometric item was computed, and it was determined whether or not the blind child scored below or above the median for the item. Similar comparisons were made for sighted children who included the blind child among their first three choices on any given sociometric item.

TABLE 1
Sociometric Standing of Blind Children

Questionnaire Item	*Number Above Median*	*Number Below Median*
1. Invite to party	6	14
2. Eat lunch with	7	13
3. Happy if absent	7	13
4. Choose as captain of kickball	2	18
5. Like to play with	7	13
6. Choose last, running game	11	9
7. Work on social studies with	4	16
8. Not sit next to during arithmetic	8	12
9. Help me with my reading lesson	4	16
10. Choose to represent class	6	14

Results

☐ The results of the sociometric study of the 17 classrooms are presented in Tables 1 and 2. Table 1 presents the standing of the blind child on the ten sociometric items. As inspection of the table reveals, blind children tend to fall below the median (i.e., less acceptable) on most items. It is apparent also, as might be expected, that in a number of instances blind children were above the class median in acceptability. Indeed, both "stars" and rejectees were found among the blind. The reasons for such standing, i.e., "stardom" or rejection, have been of particular interest in the present study. What are the behaviors of accepted and rejected blind children as described by their teachers? The results of such explorations were unremarkable in their tendency to confirm what might be expected on ad hoc grounds: children who were accepted tended to be personally congenial and free from annoying personality and behavior problems; those rejected showed an opposite pattern. The following descriptions of two accepted and two rejected blind children are illustrative of the comments given by teachers in describing accepted and rejected blind children: *Accepted* "Is well liked and respected for her academic ability"; "Pleasant personality; plays with one or two children on the playground or by self; is accepted by group; she definitely feels a part of this group; requests per-

Teacher's descriptions of students

mission to be included in special projects . . ."; *Rejected* "Is very headstrong. Stubborn is the word. Becomes quite upset when his schedule is altered"; "R strives for attention and not always in the most acceptable ways. He has upset some of the girls by calling them at home sometimes late in the evening . . . At the beginning of the school year the children were very protective of R, defended him to other children and tried to involve him in their games. More often now the tendency is to let him go on his own on the playground or to include him if he asks."

Benefactors

☐ Benefactors can be important persons in facilitating adjustment of the disabled in his relationships with the nondisabled.[2,3,4] By both direct and indirect action, benefactors can explain the limitations of the disabled person to others, and in general serve as friend, confidant, and protector within the school or other setting. No explicit means for determining the blind child's benefactors were available. We speculated, however, that such persons might be the ones who listed the blind child among their first three choices on several of the sociometric dimensions. An important aspect of the study has been to determine how these potential benefactors themselves stand in the social structure. Are they misfits, or isolates who may be choosing the blind child for selfish reasons, or are they themselves well accepted by their classmates and integrated in the classroom social structure?

Sociometric standing of benefactors

The *average* sociometric standing of sighted children who listed a blind classmate as one of their first three choices is presented in Table 2. The average scores reported in the table are categorized into above median, i.e., those sighted children listing a given blind child among their first three choices who as a group were above their class median for the item in question; or below the median, i.e., those listing the blind among their first three choices for any given questionnaire item for the item. The entries in parenthesis indicate the number of subjects whose scores entered into the above or below median computation. Thus, for the first questionnaire item ("Invite to party"), there were seven instances in which the average sociometric standing of children listing the blind among their first three choices were as a group above the median for the class on that item. The entry in parenthesis indicates that 21 students were involved in those compu-

TABLE 2

Average Sociometric Standing of Sighted Children Listing Blind Children Among Their First Three Choices

Questionnaire Item	*Number At or Above Median*	*Number Below Median*	*No Choices*
1. Invite to party	7 (21)	9 (25)	4
2. Eat lunch with	10 (41)	7 (9)	3
3. Happy if absent	7 (19)	4 (16)	9
4. Choose as captain of kickball	3 (3)	4 (8)	13
5. Like to play with	9 (25)	8 (15)	3
6. Choose last, running game	8 (33)	5 (31)	7
7. Work on social studies with	6 (15)	5 (13)	9
8. Not sit next to during arithmetic	8 (20)	5 (9)	7
9. Help me with my reading lesson	5 (13)	5 (7)	10
10. Choose to represent class	4 (17)	5 (8)	11

tations. Continuing across the first row, there were nine classrooms in which blind children were recipients of sociometric choices by their classmates who were, on the average, below the median in sociometric status on the item in question; 25 subjects entered into this finding. There were four classes in which no choices at all were received by individuals who listed the blind among their first three choices for the first questionnaire item. The total number of individuals listing the blind among their first three choices for any given questionnaire item ranged between 11 and 50. Thus, in general, the blind children were chosen by fewer than 10 percent of the total group of sighted respondents on the various questionnaire items.

Percentage of class choosing a blind child

It should be apparent that the above class median and below class median scores presented in Table 2 are the results of averages of the sociometric standing of several students within a given class, some of whom were above the class average and some below. Presentation of individual scores for every student who chose a blind child on each of these sociometric dimensions would have been cumbersome indeed. It is suspected that, in conjunction with other variables, the average scores reported in Table 2 define the climate to which the blind child in the individual classroom is exposed, i.e., he is accepted by some children of high status, by some of low status, and by some isolates, the aggregate of which, in part, contributes to his acceptance in the class.

General Conclusions

□ Generalizations which can be drawn from the data reported in Table 2 seem clear: while some individuals who listed the blind among their first three choices were "stars," some rejectees, and others isolates, in the main, those listing the blind among their first three choices tended to be below median in acceptance or were isolates. Fewer than half of those who chose the blind on any one of the positive sociometric items were themselves above average in acceptance on the item.

Increasing the acceptance of blind children

The effects of acceptance by low status sighted children on the social status and social position of blind children are, of course, unknown. It is speculated, however, that the effect is negative. If this is the case, there would seem to be some advantage in developing classroom programs which actually attempt in a systematic way to increase the acceptance of the blind child by his peers. Certain work having such objectives with mentally retarded children has been shown to be highly promising[1] and commends itself for application in facilitating the acceptance of blind children. The basic procedure of the study with the mentally retarded involved pairing a low status retarded child with a high status non-retarded one. Both subjects were to prepare a project which was to be presented to the entire class. Post-experimental sociometric study revealed that the retarded child gained in status as a function of participating in the experiment while there was no such change for the control subjects. Where a need can be shown to exist, similar experiments which pair high status sighted students with their blind peers might prove valuable in altering the acceptability of low status blind children. Obviously, programs which actually attempt di-

rectly to modify the unacceptable physical and social behaviors of blind children must be continued as well.

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The Rights of the Mentally or Physically Handicapped—*Continued from page 74.*

(4) A mentally or physically handicapped person has a right to live with his or her own family or with foster parents, to participate in all aspects of community life, and to be provided with appropriate leisure time activities. If care in an institution becomes necessary, such care should be provided in surroundings and under circumstances as close to normal living as possible.

(5) A mentally or physically handicapped person has a right to a qualified financial or legal guardian whenever such a guardian is required to protect the personal well-being and interests of that person.

(6) A mentally or physically handicapped person has a right to protection from exploitation, abuse and degrading treatment. If accused of a crime, the mentally or physically handicapped person has a right to a fair and speedy trial with full recognition being given to his or her degree of responsibility.

SEC. 2. Some mentally or physically handicapped persons may be unable, due to the severity of their handicap, to exercise for themselves all their rights. For others, modification of some or all these rights to appropriate. The procedure used for modification or determination of rights set forth in this concurrent resolution should contain provisions for proper legal safeguards, should be based on an evaluation of the social capability of the mentally or physically handicapped person by qualified experts, and should be subject to periodic reviews. Any decision from these reviews shall be subject to the right of appeal to higher appropriate authorities.

Training Blind Persons to Work as Taxpayer Service Representatives

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Three times a year, in a residence-turned-classroom in Little Rock, Arkansas, representatives of the local Internal Revenue Service (IRS) staff and faculty from Arkansas Enterprises for the Blind (AEB) meet to talk with the graduating class of a unique training program. All members of the class are blind or partially sighted; all have been trained as taxpayer service representatives and are ready to go out to positions in IRS offices across the country. At the end of 1971, 60 visually handicapped persons were working for IRS in 35 states.

Origins of the Program

☐ The training of taxpayer service representatives at AEB grew out of inquiries made in 1964 by personnel of the Little Rock IRS office about the possibility of IRS jobs for blind persons. Two years later, at an equal employment opportunity seminar in Washington, D.C., Fred Johnson, IRS district director in Little Rock, identified the position of taxpayer assistor as one that might be filled by a properly trained blind person.

Little Rock conference

Ensuing discussions resulted in a conference in Little Rock attended by administrators of national, district, and local offices of rehabilitation agencies and IRS personnel. Among those present were Dr. Douglas C. MacFarland, chief of the Division of Services for the Blind, U.S. Social and Rehabilitation Service, and Nicholas Williams, IRS national coordinator for employment of the handicapped. At that meeting, Williams stated prophetically that "these discussions definitely have far-reaching possibilities. . . ."

Pilot and Demonstration Projects

☐ Following this conference, AEB submitted a pilot project proposal entitled "Taxpayer Assistor Demonstration Training," which was approved by the U.S. Department of Health, Education, and Welfare. This was followed by the approval of a three-year demonstration project (No. 14-P-55217/6, formerly RD-2867) entitled "Training 50 Blind Persons to Work as Taxpayer Assistors for the Internal Revenue Service." The total duration of the two projects was from March 1967 through May 1971; the instructional sequence was conducted at the AEB Rehabilitation Center in Little Rock under the supervision of its executive director, Roy Kumpe.

Cooperating agencies

Initially, three agencies cooperated in carrying out the project: Arkansas State Rehabilitation Services for the Blind provided referral and rehabilitation case services; AEB provided evaluation and training; and IRS obtained materials and provided supplemental instruction, consultation, and job experience. The new and uncharted program also relied heavily upon an advisory committee of 12 professional persons. A retired teacher with 50 years of business teaching experience was hired as a full-time instructor. She was assisted by a consultant who had

retired after many years of experience as supervisor of taxpayer service representatives in the Little Rock IRS office.

The Taxpayer Service Representative

☐ Basically, a taxpayer service representative, or TSR, serves as the first point of contact with taxpayers who telephone or visit an IRS office seeking assistance in preparing and filing income tax returns. His training is designed to familiarize him with the basic sources of available information, tax forms, and IRS publications and with the fundamental procedural requirements and tax regulations. The TSR furnishes information and assistance in response to the general and non-complex inquiries usually made by taxpayers, while referring more complex and difficult questions to senior employees.

Evaluation period

Individuals referred for TSR training are recommended for such training on the basis of the results of a 30-day period of evaluation. The evaluation criteria involve the skills considered necessary for success as a TSR. These include mental ability (IQ, memory, vocabulary, etc.), mobility, independent living, communications (braille, handwriting, typewriting, telephone skills, mathematics, recording equipment), and availability for employment. Where indicated, it may be recommended that individuals be referred for additional personal adjustment and prevocational training.



Instructor Dan Dull (standing) is shown with a class of visually handicapped TSR trainees.

TSR Instruction

☐ The 15-week course of instruction, which has a schedule kept flexible enough to meet the needs of the individual trainee, includes the following: introduction and the income tax—eight weeks; employment and excise taxes—five weeks; automatic data processing—one week; other taxes, exempt organizations, and departing aliens—one day; administrative provisions—one day; guest speakers—three days. Incorporated within the schedule is a program of weekly written tests and shorter quizzes, both written and oral. The course also includes role-playing sessions which are often recorded on tape for play-back and critical comment.

Final project report

The specific characteristics of those visually handicapped persons who were referred to the program during its research phase and their success in the program are fully documented in the final report of the

demonstration project which was submitted by AEB to the U.S. Department of Health, Education, and Welfare. This 92-page report, entitled "Training Blind Persons to Work as Taxpayer Service Representatives for Internal Revenue Service," is available on request from Arkansas Enterprises for the Blind, 2811 Fair Park Blvd., Little Rock, Arkansas 72204.

The Trainees

☐ During the research phase of the program, 10 groups of trainees, a total of 56 visually handicapped persons, were graduated from TSR training and placed in IRS jobs. This included 43 males and 13 females ranging in age from 18 to 59 years. Of the 24 totally blind trainees, 10 were congenitally so and 14 adventitiously. Of the 16 who were partially sighted, seven were congenitally so and nine adventitiously. The IQ's of the group ranged from 110 to 142. Educationally, all but one of the trainees had completed high school; 12 held BA degrees, seven MA's, three LLB's, and one a PhB. Eight had received their primary and secondary education in both public schools and schools for the blind, 24 in public schools only, and 24 in schools for the blind only.

Forty drop-outs

Forty visually handicapped persons referred to the program during the research phase (making a total of 96 referrals in all) left during the evaluation period or before the completion of training. Most of these individuals did not have the skills necessary to pursue training and refused to take further readiness training. Others were temperamentally unsuited for the job of TSR or had personal adjustment problems.

Training courses continue

Although the demonstration project ended in May 1971, the TSR training courses have continued without interruption. Three classes, one of which was enrolled during the terminal phase of the research period, were graduated in 1971. A 14th group is scheduled to complete training in May 1972. The training fee is now being provided by the referring state agency rather than by the demonstration grant.

Referrals Are Encouraged

☐ With visually handicapped taxpayer service representatives now working in IRS offices all across the country, there is an increasing number of such openings for properly trained visually handicapped persons. Referrals to the program, which may be made at any time, are, therefore, encouraged. Inquiries should be made through state rehabilitation agencies or directly to AEB.



Jack McSpadden, employed at the Little Rock IRS office, was the first graduate of the taxpayer service representative training program at AEB.

The Relationship Between Self-Concept and Success in the Freshman Year of College

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The blind student entering college

The transition from high school senior to college freshman is seen by the student and those who work with him as being a difficult period. Most high school students regard their initial contact with the college of their choice with some anxiety. They are anxious about selecting the right schedule of courses, developing a satisfactory relationship with their professors, learning to meet and get along with their roommates, developing acceptable attitudes toward themselves and their peers, and selecting and preparing for their vocational goals.

In addition to these anxieties, the blind college student faces other difficult situations because of his lack of vision. The physical aspects of mobility on a college campus are of primary concern. The prospect of meeting and rooming with a sighted person is anxiety-provoking for many blind students, since it means a reevaluation of their own self-concept as well as their concept of others. Understanding their peers and professors, as well as making themselves understood by them, are important to the adjustment of blind college students.

Purpose of the Present Study

☐ The purpose of this study was to investigate the relationship between self-concept and success in the freshman year of college. Persisting and nonpersisting first year blind college students were compared on the basis of their self-concept as measured by the Tennessee Self Concept Scale and a semantic differential scale constructed in such a way that the concepts would have special significance for blind students.

Subjects

In March 1968, letters were sent to vocational rehabilitation counselors for the blind in the southeast and southwest outlining the proposed research and requesting the names of visually handicapped students who would be entering college for the first time in September 1968. As a result of these letters, 45 visually handicapped high school graduates who were sponsored by vocational rehabilitation during the 1968-69 school year were selected for this study. These students attended 33 institutions of higher education in 12 states, including six junior colleges, nine state colleges, nine state universities, three technical schools, and six private colleges. The subject population consisted of 26 females and 19 males, ranging in age from 16 to 28 years. Of the 45 students, 19 had attended public high schools and 26 had attended state schools for the blind.

Characteristics

Mental capabilities, as measured by the verbal section of the Wechsler Adult Intelligence Scale (WAIS), as well as by other standardized test data reported on high school transcripts, indicated somewhat above average verbal ability when compared with the same age group in the nation as a whole. Their mean IQ of 115, with a range from 104 to

143, is about the same as that of college-bound students generally. Performance skills as measured by the Pennsylvania Bi-Manual were, on the average, one standard deviation below the verbal ability scores on the WAIS.

Socioeconomically, the students would be classified as middle class. The occupational range of the students' parents ranged from semi-skilled to upper managment in industry. With this diversity of family background, the apparent homogeneity in tested IQ, educational aspirations, and sponsorship by vocational rehabilitation services for the blind might be due in part to the fact that the students who had attended state schools for the blind had spent a greater portion of their lives in this environment than in the home. General medical reports on each student revealed no other physical disabilities which would be of a handicapping nature in college. In most respects, these 45 students may be regarded as representative of visually handicapped students who are entering college for the first time.

Assessment Instruments

☐ Since the purpose of this study was to measure the self as perceived by the blind student, the Clinical and Research Form of the Tennessee Self Concept Scale[1] was selected because it measures areas of self-concept in which change might be expected. The scale consists of 100 self-descriptive statements which yield measurements in the following areas: self-criticism, level of self-esteem, identity, self-satisfaction, behavior, physical self, moral and ethical self, personal self, family self, variability, true-false ratio, net conflict scores, total conflict scores, and deviant scores. In studies cited by the author of the scale, test-retest reliability coefficients range from .88 to .92. These studies demonstrated that the distinctive features of individual profiles are still present for most persons a year or more later. The research further indicated that the Tennessee Self Concept Scale is a valid instrument for measuring the self-concept and changes which might result from therapy or other treatment of an experiential nature.

Semantic differential scale

A semantic differential scale was constructed using concepts which have special significance for the blind. While the concepts were those of this writer, the bi-polar adjectives used to describe them were taken from Osgood, Suci, and Tannenbaum.[3] The quantitative measurement of connotative meaning, as developed by Osgood, has found wide acceptance since its inception in 1957. Osgood's theoretical position might be said to be an elaboration of Hullian learning theory; it may be considered a behavioral conception of the representational mediation process. Osgood,[2] summarizing the rationale for the semantic differential, writes, "(a) the process of description of judgment can be conceived as the allocation of a concept to an experimental continuum definable by a pair of bi-polar terms, (b) many different experimental continua, or ways in which meaning vary, are essentially equivalent and hence may be represented as a single dimension, (c) a limited number of such continua can be used to define a semantic space within which the meaning of any concept can be specified" (p. 277).

Concepts used

The writer used nine concepts which, on the basis of his own experience as a partially sighted person, he assumed to have specific meaning for visually handicapped students: myself, college, my roommate, blind students, my classes, people who help me, my college room, students who see, and professors. The meaning of each concept was measured by means of nine sets of bi-polar adjectives, covering the three basic dimensions of meaning which Osgood has identified: (1) the evaluative dimension—good/bad, pleasant/unpleasant, meaningful/meaningless, optimistic/pessimistic, important/unimportant; (2) the potency dimension—strong/weak, tenacious/yielding; and (3) the activity dimension—active/passive, complex/simple.

Administering the Tests

☐ Measurements of the self-concept were obtained by administering the Tennessee Self Concept Scale and the semantic differential to all subjects between June 1 and June 15, 1968. In August 1968, a letter was mailed to each student who had agreed to participate in the study. A form was enclosed requesting the name and address of the college that the student planned to attend, so that the counseling center or student personnel office of the colleges could be contacted. The counselor or student personnel worker was requested to provide information regarding the academic status of these students throughout their freshman year.

TABLE 1
Mean Scores on the Tennessee Self-Concept Scale for Total Persisters and Total Nonpersisters

	Mean Score				
Scale	*Persisters*	*Nonpersisters*	*Difference*	*t Value*	*P*
T/F	1.1	1.2	-0.1	-0.80	.564
SC	34.7	41.5	-6.8**	-3.57	.001
Net C	-2.1	2.5	-0.4	-1.15	.256
Total C	28.0	41.2	-13.2**	-4.26	.000
Total P	345.9	331.6	14.3	1.29	.201
Row 1	125.8	125.9	-0.1	-0.02	.979
Row 2	107.6	98.3	9.3	1.80	.075
Row 3	112.4	107.4	5.0	1.28	.205
Col A	69.5	72.1	-2.6	-0.89	.617
Col B	70.8	61.2	9.6**	3.22	.003
Col C	66.8	62.8	4.0	1.92	.058
Col D	69.6	67.2	2.4	0.77	.551
Col E	69.1	68.4	0.7	0.25	.797
Total V	44.5	56.5	-12.0**	-3.00	.005
Col V	26.3	34.4	-8.1**	-2.72	.009
Row V	18.2	22.1	-3.9*	-1.97	.052
D Score	114.7	127.7	-13.0	-1.57	.121
D 5	15.5	24.4	-8.9*	-2.67	.010
D 4	27.6	22.1	5.5	1.78	.079
D 3	18.8	18.2	0.6	0.20	.838
D 2	20.0	13.9	6.1*	2.26	.027
D 1	18.0	21.5	-3.5	-1.05	.300
DP	56.3	48.0	8.3*	2.42	.019
GM	96.3	95.4	0.9	0.28	.780
PSY	49.7	44.4	5.3*	2.58	.013
PD	76.2	63.4	12.8**	3.20	.003
N	83.7	80.2	3.5	1.00	.324
PI	11.0	8.1	2.9*	2.43	.018
NDS	11.6	22.8	-11.2*	-2.63	.011

* $P < .05$
** $P < .01$

Data from the colleges attended by these 45 students revealed that 32 (71 percent) of the subjects persisted throughout the freshman year of college, while 13 (29 percent) dropped out of college during the first semester of their freshman year. In comparing the groups, means and standard deviations were computed. The means were compared for significant differences by the *t* test, and the variances were compared for significant differences by the *F* ratio. All computations were made using the SDS Sigma VII computer at the Vanderbilt University Computer Center in Nashville, Tennessee. Differences showing a statistical probability between .05 and .01 are considered significant in the following discussion, while those with a probability of less than .01 are considered very significant.

Tennessee Self Concept Scale—Results

☐ In comparing the scores on the sub-scales of the Tennessee Self Concept Scale, Table 1 shows the difference between the means for total persisting and total non-persisting students. There were seven significant differences: Row V (Variation in scores for all rows), D 5 and D 2 (Distribution Scores), DP (Defensive Positive Scale), PSY (Psychosis Scale), PI (Personality Integration Scale), and NDS (Number of Deviant Signs Score). There were six very significant differences: SC (Self Criticism Score), Total C (Total Conflict), Column B (Moral-Ethical

TABLE 2
Standard Deviation on the Tennessee Self-Concept Scale for Total Persisters and Total Nonpersisters

	Standard Deviation			
Scale	*Persisters*	*Nonpersisters*	*F Ratio*	*P*
T/F	0.26	0.25	1.07	.471
SC	5.73	5.75	1.01	.466
Net C	11.54	13.68	1.41	.216
Total C	8.54	11.28	1.74	.105
Total P	35.56	27.83	1.63	.185
Row 1	10.23	9.19	1.24	.358
Row 2	16.78	12.52	1.80	.141
Row 3	11.70	12.49	1.14	.366
Col A	8.39	9.49	1.28	.278
Col B	9.75	7.16	1.85	.128
Col C	6.80	5.46	1.55	.213
Col D	9.24	9.40	1.04	.444
Col E	9.26	7.78	1.42	.266
Total V	12.37	11.30	1.20	.383
Col V	8.86	9.40	1.13	.375
Row V	6.12	5.50	1.24	.358
D Score	26.01	22.92	1.29	.330
D 5	10.43	9.08	1.32	.312
D 4	9.15	10.35	1.28	.279
D 3	9.53	11.35	1.42	.209
D 2	8.12	8.45	1.08	.407
D 1	9.81	10.56	1.16	.353
DP	10.42	10.28	1.03	.495
GM	9.93	8.46	1.38	.284
PSY	5.66	7.64	1.82	.088
PD	12.58	10.96	1.32	.314
N	9.88	11.98	1.47	.188
PI	3.94	2.99	1.74	.154
NDS	10.38	17.96	3.00**	.007

* P< .05
** P< .01

Self), Total V (Total Variability on the Scale), Column V (amount of variability within columns), and PD (Personality Disorder Scale). These data suggest that the persisting students had more healthy self-concepts to assist them in coping with the stresses of college adjustment. Non-persisting students appeared less sure of themselves: they had more D 2 and D 4 scores, scored significantly higher on self criticism, exhibited more conflict with regard to their self-concepts, and were more variable in their answers.

Table 2 shows the standard deviations for the persisting and the non-persisting students. There was one very significant *F* ratio: NDS (Number of Deviant Signs Score).

Analysis

☐ In analyzing the data from Tables 1 and 2 the most important predictors on the Tennessee Self Concept Scale for persisting in college are: self criticism (SC), total conflict (Total C), moral-ethical self (Column B), and personality disorder (PD). The overall comparison indicates that nonpersisting students: (1) have poor psychological defenses; (2) are more confused and conflicted in their self-perceptions: (3) have lower self-esteem, particularly in terms of self-satisfaction, moral-ethical self, and personal self; (4) have a more variable or inconsistent self-concept; (5) have more defenses and an uncertain self-image; (6) show more deviant or maladjusted tendencies; and (7) have low personality integration scores indicating less tolerance for frustration and stress or less general personality strength.

TABLE 3
Mean Scores on the Semantic Differential for Total Persisters and Total Nonpersisters

	Mean Score				
Scale	*Persisters*	*Nonpersisters*	*Difference*	*t Value*	*P*
Activity	24.8	20.9	3.9	1.31	.195
Potency	13.6	5.1	8.5*	2.29	.025
Evaluative	86.1	72.6	13.5	1.83	.071

* P<.05
** P<.01

Semantic Differential—Results

☐ A comparison of the scores on the subscales of the semantic differential was performed. Table 3 shows the differences between the means for persisting and nonpersisting students. There was one significant difference: potency dimension. These data indicate that persisting students see themselves and their college environment as being more potent than do nonpersisting students.

Table 4 shows the standard deviations for the persisting and the nonpersisting students. There was one significant *F* ratio: Activity,

TABLE 4
Standard Deviation on the Semantic Differential for Total Persisters and Total Nonpersisters

	Standard Deviation			
Scale	*Persisters*	*Nonpersisters*	*F Ratio*	*P*
Activity	9.98	5.48	3.31*	.016
Potency	11.88	9.79	1.47	.242
Evaluative	22.53	22.13	1.04	.499

* P<.05
** P<.01

indicating that persisting students show less variance in their answers than do nonpersisting students.

Analysis and Conclusions

☐ The data in Tables 3 and 4 suggest that a semantic differential containing certain relevant concepts may be useful to counselors in differentiating between persisting and nonpersisting students and in identifying the types of attitudes which contribute to a student's chances for the successful completion of the freshman year in college. The data in these tables further support the data gathered from the Tennessee Self Concept Scale as shown in Tables 1 and 2.

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3. Osgood, C. E.; Suci, G. J.; and Tannenbaum, P. H. *The Measurement of Meaning.* Urbana, Illinois: University of Illinois Press, 1957.

Recommendations on Geriatric Blindness Proposed at White House Conference on Aging

A special-concerns session on geriatric blindness was conducted as part of the recent five-day White House Conference on Aging under the auspices of the American Foundation for the Blind along with a number of other national organizations including the National Task Force on Geriatric Blindness. Delegates to this session proposed the following five recommendations to the Conference:

Increased Benefits

"1. It is recommended that Congress increase old age, survivors and disability insurance and the adult public assistance categories to the intermediate level of living recommended by the Bureau of Labor Statistics (at least $2,297 for a single person and $4,185 for a married couple) and further, that the adult categories of public assistance be federalized and that Social Security benefits not be deducted from public assistance payments.

Prevention of Blindness

"2. It is recommended that the National Eye Institute and other interested organizations on a national and local level combine their efforts in an urgent over-all program to prevent or alleviate diabetic retinopathy; establish a center for the study of diseases of the macula, and increase efforts in the field of cataract, glaucoma, and vascular diseases of the eye; establish screening efforts, especially at hospitals, medical centers, homes for the aged, nursing homes, and extended care facilities, to find aged patients who have blinding eye diseases which can be helped by medical or surgical means and low-vision aids. Such efforts should be made by interested philanthropic organizations and implemented, if necessary, by legislative action.

Better statistics; more low vision services

"It is further recommended that the National Eye Institute be required to develop better statistics on incidence, prevalence, and etiology of blinding eye conditions; that Congress amend Titles XVIII and XIX of the Social Security Act to cover low-vision aids when the need is certified by an ophthalmologist or an optometrist specializing in low-vision treatment; and that the number of low-vision centers be increased and that the centers be staffed under the supervision of an ophthalmologist or a qualified optometrist.

More Rehabilitation Services

"3. It is recommended that the Vocational Rehabilitation Act be broadened to make rehabilitation services available to blind persons without regard to age or economic need, and that Congress be urged to enact S.1030, a bill to amend the Vocational Rehabilitation Act to provide rehabilitation services to older blind persons, and S.2506, a bill to amend the Randolph-Sheppard Act, to accomplish these purposes.

Mobility and Transportation

"4. It is recommended that the elderly, including the blind and handicapped, must have access to all modes of mobility and transportation for obtaining the essentials of daily living and the cultural and social benefits of modern society.

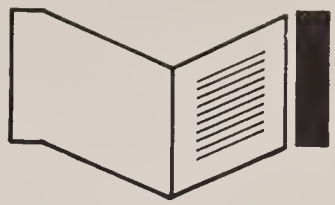
Personal Care Benefits

"5. It is recommended that the Administration and Congress develop a network of personal care benefits for individuals with a certain level of functional disability to enable the older person to purchase whatever services are necessary to help him remain in his own home if he so wishes; such benefit is to be in addition to basic minimum income and assure a financial basis for local community service providers."

Six More Agencies Accredited by NAC

The National Accreditation Council for Agencies Serving the Blind and Visually Handicapped (NAC) has announced the accreditation of the following agencies for the blind: Services for the Blind and Visually Handicapped, Kansas State Department of Social Welfare, Topeka; Royal Maid, Inc., Hazlehurst, Mississippi; Kansas City (Missouri) Association for the Blind; Blind Work Association, Inc., Binghamton, New York; The Industrial Home for the Blind, Brooklyn, New York; and Syracuse (New York) Association for the Blind, Inc. These six, along with 23 other agencies and 10 schools, have become charter accredited members of the Council after having been found in compliance with nationally accepted standards of administration and service.

Current Literature



Enhancement of Grade 2 Braille Translation, by Russell E. Puckett. University of Kentucky, College of Engineering (Lexington, Kentucky 40506), February 28, 1971, 15p. Final report on planning study RD-3711-S sponsored by the Social and Rehabilitation Service of the U. S. Department of Health, Education, and Welfare, concerning the use of computers to translate inkprint into Grade 2 braille. Brief outlines are included on similar work being done by the American Printing House for the Blind, the Argonne National Laboratory, MIT's Sensory Aids Evaluation and Development Center, and the Atlanta (Georgia) Public School System.

The Relocation of Blind Persons From a Residential Home for the Blind and the Development of Specialized Community Services for the Older Visually Handicapped Population, by Melvin Saterbak, project director, with John Sineps and Raymond Relaford. Minneapolis Society for the Blind, Inc. (1936 Lyndale Avenue South, Minneapolis, Minnesota 55403), November 1, 1970, 78+ p. $1.00. Final report on Demonstration Grant RD-1956-S from the Social and Rehabilitation Service of the U. S. Department of Health, Education, and Welfare. The study began in 1966 when the planned closing of the Minneapolis Home for the Blind necessitated the relocation of 65 blind residents. It continued for 2½ years following the relocation to obtain information concerning the factors leading to successful community integration and adjustment.

Alpha Rhythm in Totally Blind Children, by P. M. Jeavons, G. F. A. Harding, G. W. Ferries, and C. R. S. Thompson. *British Journal of Ophthalmology* (British Medical Association, Tavistock Square, London, W.C.1, England), Vol. 54, No. 12, December 1970, pp. 786-93. Study conducted in England with 32 totally blind children divided into groups on the basis of blindness occurring before or after six months of age. Results failed to support previous findings that the presence of some vision in early life is related to the amount of alpha rhythm seen later in life in the electroencephalogram of the totally blind child.

Color Discriminability for Partially Seeing Children, by William A. Myers. *Exceptional Children* (The Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 S. Jefferson Davis Highway, Arlington, Virginia 22202), Vol. 38, No. 3, November 1971, pp. 223-28. Research report based on tests conducted with 30 myopic children using the Snellen "E" printed in selected colored inks on various colored backgrounds.

Relationships of Socioeconomic Background and School Performance of Partially Seeing Children, by Andrew Oseroff and Jack W. Birch. *Exceptional Children* (see address above), Vol. 38, No. 2, October 1971, pp. 158-59. Summary of an investigation which found a significant correlation between academic retardation and lack of motivating socio-economic factors.

A Time of Blossoming, by Margaret Freer. *Dialogue* (Dialogue Publications, Inc., 3100 Oak Park Avenue, Berwyn, Illinois 60402), Vol. 10, No. 4, Winter 1971, pp. 34-37. The author, who lost her sight at the height of her editorial career, relates her experiences at the Arkansas Enterprises for the Blind in Little Rock.

Regional Centers for Deaf-blind Children: A New Hope, by Robert Dantona. *The Volta Review* (Alexander Graham Bell Association for the Deaf, 3417 Volta Place, N. W., Washington, D. C. 20007), Vol. 73, October 1971, pp. 411-15. Mr. Dantona, the U. S. Office of Education coordinator of centers and services for deaf-blind children, gives a brief report on the past accomplishments and future plans of the ten regional centers.

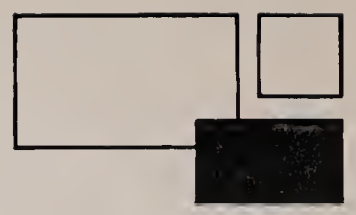
—M.M.R.

Additional Listings

Contemporary Concepts in Vocational Education. American Vocational Association (Publication Sales, AVA, 1510 H Street, N.W., Washington, D.C. 20005), 1971, 436p. $8.50. The first Yearbook of the American Vocational Association contains both previously published works and materials prepared expressly for this edition. The goal of this annual compilation is to gather solid resource materials for the teacher, administrator, and others in vocational education, including post-secondary and graduate classes.

The State of the Art of Volunteering in Rehabilitation Facilities. Goodwill Industries of America, Inc., and the National Auxiliary to Goodwill Industries (9200 Wisconsin Avenue, Washington, D.C. 20014), 1971. 59p. $2.00. This report is based on data collected in a survey of a one-quarter stratified random sample of approximately 2,800 identified rehabilitation facilities across the country. Among the areas explored in this pioneering study are the activities of volunteers, demographic characteristics, organization and administration of volunteer programs, and attitudes toward volunteer participation.

News in Brief



■ With a gift of $20,000 from the Ohio Lions Eye Research Foundation, the University of Cincinnati Medical Center has purchased a Zeiss photo-coagulator, a device used in the treatment of certain disorders of the retina. It has been installed in the ophthalmology department at General Hospital. The gift, from the estate of the late Dr. Roy C. Harkrader, a Cincinnati dentist and member of the Cincinnati Lions Club from its founding in 1920 until his death in 1968, brings the total amount of gifts received by the University Medical Center from the Lions Foundation to $185,000.

■ *Dialogue*, the magazine for blind and deaf-blind persons published in Berwyn, Illinois, has proposed to the Congressional committee concerned with the new U.S. Postal Service that the weight limit on first-class mail be increased from one ounce to three ounces per unit of postage so that recorded tapes and heavy braille messages can be mailed at the current rate of postage—eight cents. Such mail would be marked "First-Class Mail for the Blind." The *Dialogue* proposal has been unanimously endorsed by the conventions of the American Association of Workers for the Blind and the American Council of the Blind.

■ Lanewood Press, Inc., Boston, has begun to issue the titles in its Lanewood LargeType Editions series in both hard and soft covers in an effort to minimize the bulk and weight problem of large print books. The Lanewood series is published in a compact 7- by 10-inch format. The first three volumes to be so issued are *Friday the Rabbi Stayed Home*, by Harry Kemelman; *The Treasure of the Sierra Madre*, by B. Travers; and *Fourth Street East*, by Jerome Weidman. The hard-cover versions are $8.50, the soft-cover, $6.00.

■ Howe Press at Perkins School for the Blind, Watertown, Massachusetts, has announced a reduction in the unit copy price of its "braille fragrance" books from $9.50 to $7.00. The books in the series are *The Sweet Smell of Christmas*, *Little Bunny Follows His Nose*, and *Detective Arthur on the Scent*.

■ In California, cost of living increases for 472,000 aged, blind, and disabled welfare recipients (amounting to five dollars per month for Old Age Security and Aid to Disabled programs, and six dollars per month for Aid to the Blind) took effect on December 1, 1971. The 472,000 recipients represent about 90 percent of those receiving adult assistance and who are in independent living arrangements. On January 1, 1972, regulations for housing allowances for the needy aged were extended to cover private as well as public housing if building standards are met.

■ The Cleveland Society for the Blind recently received a Kulas Foundation grant of $22,050 to initiate a program to field test the Optacon, an electronic reading device for blind persons. Four of the devices, which transform images from the printed page to a tactile display, and auxiliary teaching attachments have been purchased. A staff member will be trained to instruct blind persons to use the Optacon. The Optacon was developed at Stanford University and Stanford Research Institute by Drs. J. G. Linvill and James C. Bliss.

■ The first Canadian Association of Blind Programmers was formed last year at a meeting of 21 blind computer programmers at the A. V. Weir Center of the Canadian National Institute for the Blind in Toronto. Officers were elected and plans made for a quarterly newsletter.

■ In line with its recent commitment to a world-wide effort in the field of the prevention of blindness, the New York-based American Foundation for Overseas Blind has appointed Susan T. Pettiss, Ph.D., to the position of director of blindness prevention. In this capacity and under the immediate supervision of Alex H. Townsend, associate director for service, Dr. Pettiss will be responsible for the design, execution, and management of AFOB's program of prevention of blindness. She will also work closely with M. Robert Barnett, executive director of AFOB, the Board of Directors, and a special Advisory Committee on Prevention Activities in determining plans and policies governing the Foundation's sphere of prevention activities.

Before joining AFOB, Dr. Pettiss held a number of assignments in the field of social welfare—with such organizations as U.S. Department of Health, Education, and Welfare, International Social Service, American Association of Social Workers, International Refugee Organization, and U.N. Relief and Rehabilitation Administration. Most recently she has served as research associate, Graduate School for Advanced Studies and Social Welfare, Brandeis University, and as lecturer on social policy, Boston University School of Social Work. She has published widely on the subject of social welfare.

The members of the AFOB Advisory Committee on Prevention Activities are: Harry Bakwin, M.D., New York University School of Medicine; John W. Ferree, M.D., former executive director of the National Society for the Prevention of Blindness; Richard E. Hoover, M.D., Johns Hopkins University School of Medicine; David Paton, M.D., Baylor College of Medicine; Arnold Schaefer, M.D., Pan American Health Organization; and Jeannette J. Simmons, Dr. Sc., Harvard School of Public Health.

■ Vol. 1, No. 1 of *The Roberts Center Light,* a four-page, tabloid-size student newspaper, was published in November 1971 by the Campus School for Multiply-Handicapped Children and Adolescents, (a program run by the Department of Special Education, Boston College). It consists of stories and reports of classroom activities and trips written or dictated by the students (and reproduced in their original hands), student drawings, and photographs (many taken by the students). Raymond Gerard, the prevocational instructor and the originator of the idea for a student newspaper, says that the students were at first very sceptical about the possibility of their really being able to have their own newspaper. Nevertheless, Mr. Gerard says, "The end product was very convincing (it looked like a newspaper), and the children's attitudes changed very quickly. They had a bit more faith, more self-confidence, and more incentive to learn how to read." The Campus School, directed by Daniel McCarthy, has an enrollment of 57 students, three to 18 years of age.

Appointments

■ Toledo Society for the Blind: **Donald Norwood,** executive director (replacing **Lyle O. Kirk,** who has retired after nearly 15 years with the agency).

■ Kansas Association for the Blind, newly elected officers: **Walt Schreiner,** president; **Reese Robrahn,** vice president.

■ National Eye Institute, Contracts and Grants Branch: **George S. Parish,** chief.

■ University of Northern Colorado, Greeley: **Dean W. Tuttle, Ph.D.,** assistant professor, Special Education Department, Visually Handicapped (formerly supervising teacher, California School for the Blind, Berkeley).

Awards

■ Outstanding Professional Worker of 1971, Metropolitan New York Chapter, National Rehabilitation Association: **William F. Gallagher,** director of rehabilitation, New York Association for the Blind, New York City.

Coming Events

March 6-10 Regional Training Conference for Rehabilitation Teachers and Counselors, Arkansas Enterprises for the Blind, Little Rock.

March 16-18 California Transcribers and Educators of the Visually Handicapped, 13th Annual Conference, North Hollywood, California.

March 19-24 Council for Exceptional Children, 50th Annual International Convention, Washington, D.C.

March 26-30 American Personnel and Guidance Association, Annual Convention, Chicago.

April 2-7 Ninth Pan American Congress of Ophthalmology, Houston.

April 5-6 American Geriatrics Society, Annual Meeting, New York City.

April 5-8 American Orthopsychiatric Association, 49th Annual Meeting, Detroit.

April 10-12 Regional Workshop for Rehabilitation Personnel Working With Visually Impaired Mentally Retarded Clients, Arkansas Enterprises for the Blind, Little Rock.

April 11-14 American Public Welfare Association, Southwest Regional Conference, Oklahoma City.

April 14-15 Association for Education of the Visually Handicapped, Midwest Regional Conference, De Kalb, Illinois.

April 17-21 European Society of Ophthalmology, Fourth Congress, Budapest, Hungary.

April 24-28 Association for Research in Vision and Ophthalmology, Spring Meeting, Sarasota, Florida.

May 7-10 American Public Welfare Association, Central States Regional Conference, St. Louis.

May 24-27 American Public Welfare Association, Mountain States Regional Conference, Denver.

May 28-June 2 National Conference on Social Welfare, 99th Annual Forum, Chicago.

May 29-31 American Ophthalmological Society, 108th Annual Meeting, Hot Springs, Virginia.

June 4-8 Special Libraries Association, Boston.

June 11-15 Medical Libraries Association, San Diego, California.

June 22-25 Optical Manufacturers Association, Optical Fair, St. Louis.

June 25-29 Association for Education of the Visually Handicapped, 51st Biennial Conference, Miami Beach.

June 29-July 1 Lions International Convention, Mexico City.

July 2-7 International Association of Gerontology, Ninth International Congress, Kiev, U.S.S.R.

July 26-August 2 International Council of Educators of Blind Youth, Fifth Quinquennial Conference, Madrid, Spain.

August 13-19 International Council on Social Welfare, 16th International Conference, The Hague, Netherlands.

August 27-September 1 International Society for Rehabilitation of the Disabled, 12th World Congress, Sydney, Australia.

September 5-8 American Public Welfare Association, Northeast Regional Conference, San Juan, Puerto Rico.

September 11-13 Gerontology Around the World, 25th Annual Conference on Aging, University of Michigan, Ann Arbor.

September 19-22 American Public Welfare Association, Southeast Regional Conference, Biloxi, Mississippi.

September 24-28 American Academy of Ophthalmology and Otolaryngology, 77th Annual Meeting, Dallas.

October 1-7 Employ the Handicapped Week

October 22-25 American Public Welfare Association, Western Regional Conference, Phoenix.

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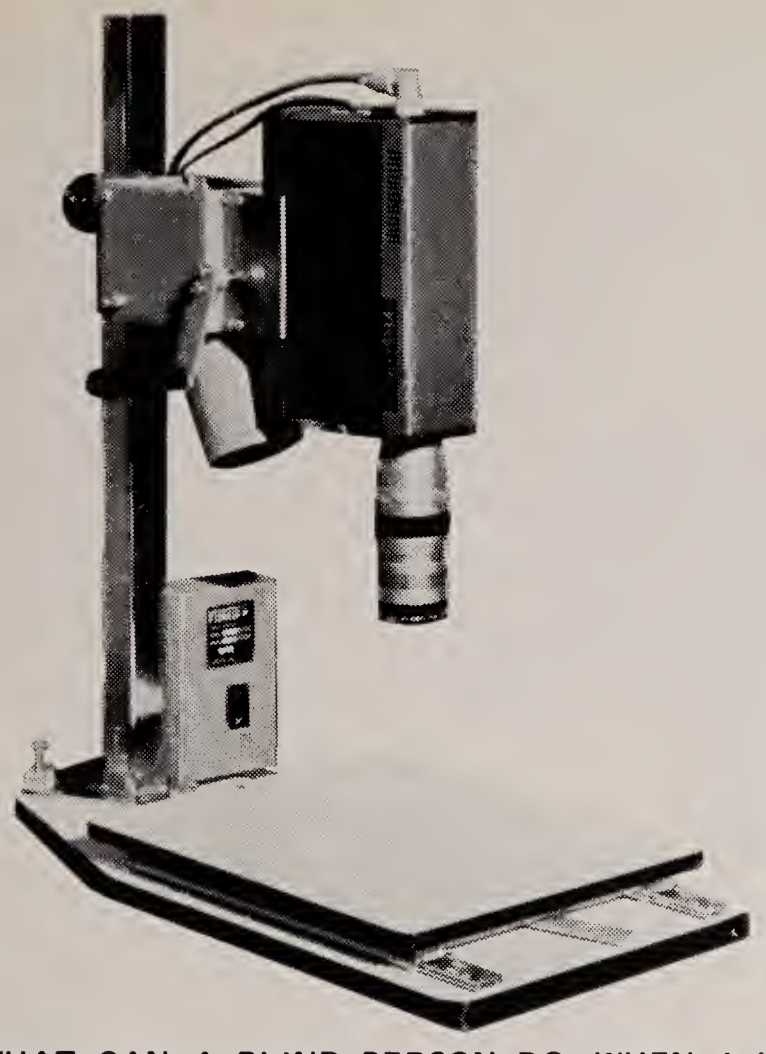
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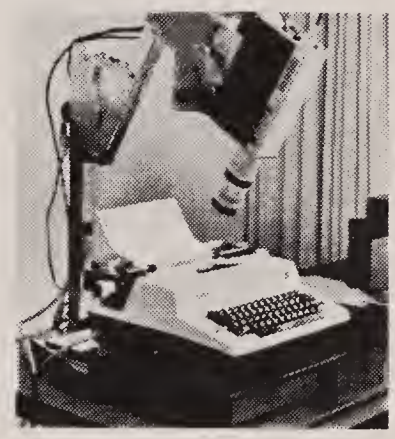


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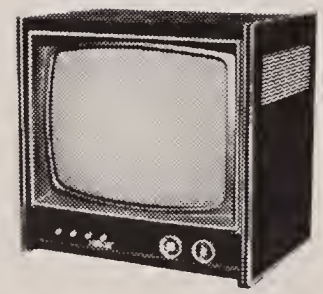
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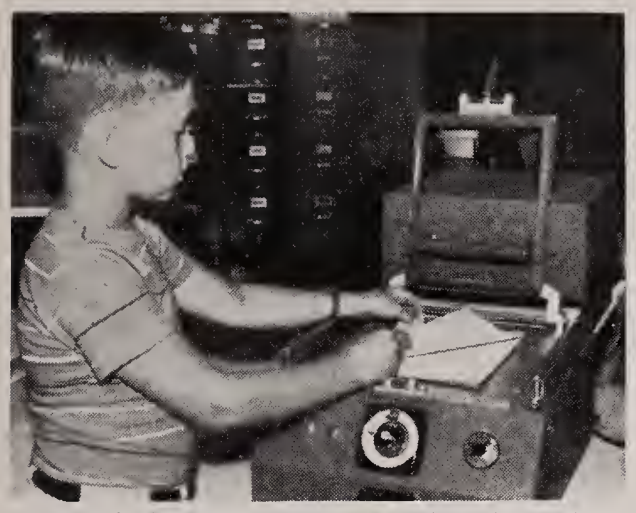
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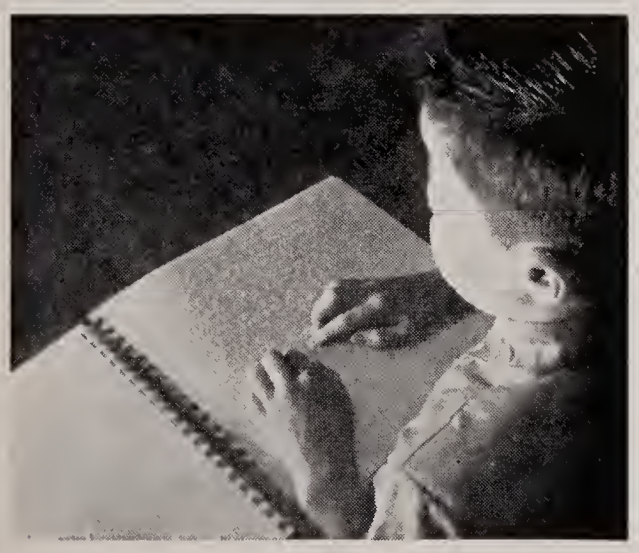


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Look at Aging
. Thomas J. Carroll

he On-Site Review: NAC at IHB

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THE NEW Outlook FOR THE BLIND

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Outlook
FOR THE BLIND

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A Look at Aging

REV. THOMAS J. CARROLL

Editor's Note: The late Father Carroll received the Leslie Dana Gold Medal Award of the St. Louis Ophthalmological Society on March 25, 1971; he delivered the following address at the Awards Banquet. A month later, on April 24, the 61-year-old "Father Tom" died. Because of his more than 30 years of outstanding work with blind and visually handicapped persons and particularly his great concern with the problems of elderly blind persons (in 1965 he founded St. Raphael's Geriatric Adjustment Center, a part of the Catholic Guild for All the Blind, Newton, Massachusetts), it was felt that the publication of this paper, his last, would be a fitting tribute to him on the occasion of the first anniversary of his death. Also in tribute to Father Carroll, the Catholic Guild, which he headed for many years, is holding a two-day conference (April 24-25, 1972) in Newton on the theme "Aging and Blindness: Doubts and Promises."

I speak to you tonight on aging. It is a topic which I have been interested in for years. I have read on it. I have given talks about it. I have done some writing on it. I have run a geriatric adjustment center for blind persons; and, of course, in recent years, I have had an experiential confrontation with the process.

Talking About Aging

☐ Yet, for some reason, the talk I planned to give you was most difficult to put together. I had months in which to choose my topic. I chose the subject both because of its widespread interest and because some 50 percent of blind people are in the group which we categorize as aged. I had weeks in which to put together notes on the subject. The notes were copious, indeed; yet, somehow I could not make it hang together. Finally I began to think of the reasons why.

You are one of the reasons. Not that you are a difficult audience. Not that I anticipated that you would be. Rather you have done so much for me and have brought me "half way across the country" to give this address. That puts a little pressure on; but I knew that was not the real reason. I then thought of the fact that aspects of the aging process are sad—that the way we treat some of our aged is enough to make me seem like the specter at the banquet. But I knew that was not it—because not all of aging is sad.

Abolishing stereotypes

I think the real problem is that to talk on aging one has almost to abolish a myriad of stereotypes. Aging is like fund raising: everybody is an expert. It may be an aged grandfather or grandmother that we remember from early days; it may even be a father or a mother; or maybe someone in a nursing home or someone else in a rest home. It may be the spry 90-year-old or it may be the senile 65-year-old. He becomes our favorite old person. We either make all old persons in his image and likeness; or we make him the outstanding exception that tests the rule that all old people are this or that or whatever it may be.

Where Is the Aged Group?

☐ It is not true, as many of us would think, that the aged group is to be found mainly in nursing homes and other institutions. As a matter of fact, research in the last few years has shown that if we take the

figure of 65 years as our cutoff line, we will find that only four percent of persons above that age are in institutions. The figure does rise sharply when one reaches the 85-year-old cutoff line, but even there the number in institutions is only 13.8 percent.[1]

Many are neglected

Where are the rest? Many of them are in their own homes, even living in the extended family situation. Many more are in comfortable living situations. But too many—all too many—are neglected. Many of them are in areas of the core city which once were their luxury, but now are their tombs. Many of them are in suburbs or exurbs or rural centers which once had transportation and now have none—once had neighborhood stores which now have vanished—once had neighbors but now have only strangers.

"Planned obsolescence"

Writing of the core city but extending his words beyond, Mark Mirsky recently published an article in the *Boston University Journal* in which he said, "Age is dead in America, a waste product of planned obsolescence; despite Social Security, Welfare, Medicaid, there is no place for the old. They must squat in hideous loneliness before the Angel."[2] This, too, could become a stereotype if we allowed it to. Unfortunately, it speaks truthfully of much of America and much of our thought. On any adjusted basis, funds for programs for the aged are diminishing; and the number of housing starts for them is miserable.

Scandinavia

Some years ago in *Commonweal,* Gunnar D. Kumlein, writing of the situation in the Scandinavian countries, referred to the aged population as "the growing gray mass." The term is shocking, as the author intended. Kumlein noted that "youth in Scandinavia behave toward elders in the same way as whites behave toward Negroes in lands that are openly racist."[3] But in my belief it is not only youth who push out the elderly. It is the middle-aged as well.

Future Shock

☐ I know many people are weary of talk of "generation gaps." They see the generation gap only in terms of their own youth and their inability to communicate with their elders. Thus, they miss the whole point. I would have you believe that there are two generation gaps. I give you instead Toffler's concept of "future shock."

I first came across Toffler in the September 1965 issue of *Horizon* where he wrote on "The Future as a Way of Life."[4] Many of you since have read his book, *Future Shock.*[5] But it was in *Horizon* that I first met it. We know the term "culture shock," used to describe the individual uprooted from one culture, finding himself alone in another. I knew it as a problem of what we now call our ethnic groups—with all of their older values torn apart and their children bringing in new values from their school and their classmates—values which they want and don't want, leading to a rending ambivalence.

Disorientation

Toffler's "future shock" was the term in which he expressed his belief, "most human beings alive today will find themselves increasingly disoriented . . . the malaise, mass neurosis, irrationality and free-floating violence already apparent . . . are merely a foretaste of what lies ahead. . . ."[6] unless we learn to deal with future shock.

"Centrifugal force"

Before Toffler, and without any such depth of thought or critical research, I had been using the term "centrifugal force." I continue to use it. I give it to you tonight only if you are immunized to the terms "generation gap" and "future shock," hoping that I can somehow bring home the situation of our aged population. I believe that the world is moving so fast that it is almost spinning them off. I believe there is not enough attention given to the change which has taken place in the world during their lifetime. I repeat an earlier statement of mine: "Our elderly citizens were born in a wholly different culture—not the culture of another land, but of another time."[7] And I dare to repeat: "No generation of human beings in recorded history has seen such massive and accelerated change as has that particular generation."[8]

Change in the Past

☐ The man who went on Social Security last year was born probably in 1905. When he was a kid of 10 or 15 he could turn to the "elder" of those days, a man who was born in 1840 or 1850. That man had known the Civil War, the opening of the plains, the Indian Wars, the flintlock, the prairie schooners. He had *learned about* the iron horse, the steamship, and the new-fangled horseless carriage (which he perhaps drove). But, essentially, not one thing had changed in his life—in the essence of his life since the time of the Civil War.

Change in recent years

Our new old-timer is in a completely different category. It is not a matter of one World War or two or three (including, if you will pardon my statement of it, *this God damned war*). It is a matter of a totally changed world. Communication is instant. Distance is—gone! Even time is dissolved! Holy Writ—whether it be the Torah or all of sacred scripture—states something new to him. Evolution is no longer a theory but fact. His underpinnings in State—and Church—and, finally, life are gone. There is an information explosion! There are transplants of corneas, transplants of kidneys, and transplants of hearts. Medicine and its research have undergone a sea change. We are on the threshold of problems in medical ethics that few recognize and probably none can answer. On and on and on. In one phase after another the young man of today has left the old man behind.

Disappearance of wisdom

And it is my claim that "wisdom" as a quality of age has disappeared from the face of the earth. "Wisdom," in my understanding, was a quality of common sense or knowledge prepared in the kiln of experience. Now the experience is no more; the information is incomplete and wisdom has flown.

Being spun off

I repeat! I repeat again that "the centrifugal force" of a rapidly spinning world has spun off an older generation. And I say to you that unless we keep contact, that force can spin us off as well. For we live in a time when "every area of science has gone critical"; and only the superb giants among you are ready to deal with it.

Rate of Change

☐ I will come back again to earth for the moment. I will give you a quotation from 1960. In that year, Jack Ludwig, writing in the *Atlantic*, said: "Once upon a time—if we counted time not by calendars but by assimilated history and scientific change, I would be tempted to

say four or five thousand years ago—before fusion and fission, jets, moon shots, astronauts, luniks in orbit, before TV, carburetors, and other wonders of automation, before dead-faced hoods on motorcycles, dead-faced beatniks on madecycles; once upon *that* kind of time lived a boy and his horse. The year was 1939."[9]

Somehow I think Ludwig says more about "centrifugal force" than I can say in all my living. But I repeat the statement of my strong belief that "No other generation in recorded history has undergone the changes which have come about in the lifetime of our present day older people."[10]

Theory of Disengagement

☐ Current today in work for the aging are two practice theories. You all recognize that practice theories are always exaggerated by those who disagree with them and sometimes by those who strongly hold them. One is the "disengagement theory," best spelled out in the book *Growing Old: The Process of Disengagement* by Cumming and Henry.[11] In general, and I hope I am not contributing to the exaggeration, the theory would say that as age advances one recognizes difficulty after difficulty, diminution after diminution and attempts to face them and gradually fade from the "engagement" of everyday living. No valuable theory, of course, is as simplistic as my outline; and the theory of Cumming and Henry *is* valuable (and not simplistic, I assure you).

An 18th-century parallel

I hope Cumming and Henry would agree with me when I see an earlier writer as holding forth something of the same theory put in very different terms. I refer to the Lutheran ascetic, Gerhard Tersteegen, who lived from 1697 to 1769. Toward the end of his holy life, he said that God, depriving him of all his powers, one by one, was like a mother undressing her child for the night, before it abandons itself to rest in her arms. Probably Tersteegen would have called it "detachment" rather than "disengagement" but if my interpretation is correct, the idea from an older ascetic theology and the idea from a new sociology are in many ways one.

What is "put aside"

But what are the garments that are put aside? What is the clothing that the mother removes? If we can avoid stereotypical thinking we can see what these are *at least for some* in the category of the aging or the aged. There is a loss in hearing—both in the highest audible frequency and in auditory threshold. There is a loss of touch—a loss in the kinesthetic sense—a loss in time perception—loss in strength—and a loss in reaction time (and if you take the time to put some of these losses together, you will better understand the pedestrian accidents of the aging). There is a loss of teeth—a loss of taste—and a loss of sense of smell—all three of them accounting for major malnutrition problems in the aging.

Diagnosis and the Aging

☐ I have long railed against the easy diagnosis of "senile psychosis" or "senile dementia" unless it is made by a psychiatrist specializing in geriatric care. As things stand now, I would warn you, if you want to have a neurotic or psychotic break, have it at 25, 35, 45, or 55 years of age; people will try to reverse it. But don't have it at 65 or older. The

same kind people will grieve for you, but in their "crass and supine ignorance," they will "put you away" with you "senile dementia," your "irreversible brain damage." Choice: Have your crack-up now or begin educating those who deal with the elderly!

Malnutrition

But I was talking of malnutrition—loss of teeth, of tastebuds, of olfactory sense, of interest, and of appetite. I beg you in your older people look for pellagra! I speak of your middle-classed and your wealthy as well as your poor! Don't wait for the burning lips and tongue. "Pellagra: neurasthenia, depression, anxiety, hallucinatory fantasies increasing in depth and duration, withdrawal and paranoid tendencies." The list of symptoms is my list, but you will find it in any series of texts. Could you give me any better list of symptoms for "irreversible brain damage" for something which is not that? Warning: don't get pellagra after age 65!

Loss of pertinence

In the field of intelligence, research is not so clear; but *apparently* memory diminishes as do some other intelligence factors. For many, and particularly in the upper age brackets, there is a sexual loss. With all of this goes a loss of friends and relatives—a loss of contemporaries. There is a loss of *pertinence* (I hope you like my word; I am trying to avoid the word "relevance"). Often there is a loss in physical tone, both in its strict sense of "tonus" and its broader sense. Health diminishes as chronic illnesses increase. Something that bothers me most is the time loss. I know what it is and I know how to attack it—but I worry about my solution which smacks of Big Brotherism.

Time and the Aging

☐ For 13 months I was an inpatient at the world's greatest rehabilitation center (Dr. Rusk's). I was out more and more as I got better—but there a winter passed that might as well be spring. I was reading daily papers, and involved, "engaged," running an agency from afar. Yet I could have lost a year.

My Big-Brother-idea (which frightens me) is that the old person alone, at home, hospitalized, or institutionalized might be able to press a button and a voice would give the time, the day, the year, and the place. A good interim proposal would be to the F.C.C. to demand that hourly station announcements include the time (noting if it is day or night), the day of the week, the day of the month, and the year. For the aged mother doesn't do the wash on Monday; the grocery man doesn't come on Tuesday. She doesn't even cook her bread on *any* day. And daughter's guests "couldn't care less" for beans on Saturday. I know I seem to have talked too much of time intervals. But that is not at all my point. I talk, instead, of time identification, of identity with *today!*

Loss of independence

There is a loss of role—of finances—and of home.[12] And interestingly, with the financial loss, our present Social Security system does not allow the person to bring in decent earnings. He may have as much as he can get in "unearned income" but his earnings must be kept to a minimum.

Visual Loss

☐ But above all, for you ophthalmologists here tonight I call attention to the visual loss. More than 50 percent of the blind persons in this

country are over 65 years of age;[13] by contrast, in the last census, 50 percent of the general population was over 28.8 years of age.[14] These people (50 percent of those over 65 years) and many other older people have lost visual acuity—dark adaptation, accommodation, and critical flicker fusion—and I need not tell you how many of them have severe losses in their field of vision, or other visual losses.

Total Rehabilitation

☐ I have talked about disengagement and losses so much as to give a pessimistic view. My own view is really quite different. I believe that with any problem of life the main reaction must be to face it and then find how to overcome it. I believe that, for aged persons and particularly for aged blind persons, the only answer is "total rehabilitation." I mean the process whereby, "in varying stages of helplessness, emotional disturbance and dependence, 'they' come to gain new understanding of themselves and of their handicap, the new skills necessary for their new state, and a new control of their emotions and of their environment."[15]

Almost like rejuvenation

And it can be done! At our St. Raphael's, a geriatric adjustment center, we have taken elderly persons who have just lost their sight, and persons blind all their lives who have just become old. We have seen them in great dependence and have watched them (not all of them) move in days and weeks to an utterly new state of independence. It is not the Fountain of Youth; but the results sometimes appear like rejuvenation. Certainly there is new self-understanding and new ability to face the problems of age and blindness.

"Conservatism"

I said earlier that one of the problems is the need to destroy so many stereotypes. We think of persons as becoming conservative or even reactionary as they grow older. We fail to remember that the times in which they grew up were "conservative" or "reactionary" by the standards of today. There is no reason to think they have changed. We think of them as having less knowledge—but it is not that they lose knowledge. Rather it is that their generation was educated to another type of knowledge, another kind. They have lost nothing in this regard—and yet, in another sense, they have lost much if the world has passed them by.

Education of the Elderly

☐ We need to start educating the elderly. The education of the elderly includes high school, college, and postgraduate courses for them. Far more important, it means applying some of the newest means we use for disadvantaged children. If you don't catch me, let me make it clear: I am talking about new means to communicate new abstract concepts to the elderly. And we need to educate other generations: the middle-aged and the young. We have to see to it that the older group is not cast into an out-group forgotten by our civilization.

Being active

I think probably the greatest thing I could ask of you is that you attempt to destroy your stereotypes about aging and the aged. Here tonight with us is Lee Johnston, about to celebrate her 89th birthday. She is active in administration and consultation work for the blind and for prevention of blindness. On Sunday in Boston I will be at a

birthday party for my Aunt Bess. It will celebrate her 89th birthday. Although she will arrive driving her Volks, she will be less happy this year because our winter has been so bad. It may be at least another week before she gets back to the golf course and her golf game. Two years ago she had difficulty passing her test to renew her driver's license—but a simple, good refraction fitted her with the glasses she needs to drive the Volkswagen and the golf ball. Last year she did admit that her drives on the golf course are not as long as they were 10 years ago and she admits now that, when she drives her Volks more than 40 or 50 miles, she gets tired!—but, if you think she is not involved and facing life, it's because you haven't met her. (I really can't invite you *all* to the party.)

Even Minimal Gains in Vision

☐ To you ophthalmologists I make a plea that you recognize the importance of the careful refraction and frequent refraction for persons of low vision in their later years. You may not get them back to the golf course, or back on the road—but I tell you that a minimal gain in vision can mean much. I beg you further to involve yourselves in low vision work. To many of us a movement from 3/200 to 5/200 may not mean much, but to one who makes that move it can be all important.

At our geriatric center we have had "a number" (I don't want to claim too much, but I think to you it would be significant) of elderly persons who came to us with eye reports which showed them irreversibly blind. Many times at their request, after a new examination, an operation gave back sight that to them was useful. We may suspect problems behind a cataract; we may have strong reason to believe it —but if by operation we can give the individual a degree of independence he would not otherwise have had, then I beg you to consider it. I know that you know your patients. I know that you must consider them and their reactions. I know that you must weigh many things. All I ask is a little more weight on the side of a little more vision.

Engagement

☐ I think what I have been asking for all evening is a little more "engagement" by you for elderly people as well as more "engagement" by elderly people themselves. I believe that Bobby Burns' John Anderson intended a very slow progress down that hill with every foot dug sharply in the heather. I believe that the "tottering" was always with the attempt to be a part of things—a part of life!

"Now we maun totter down, John,
And hand in hand we'll go,
And sleep togither at the foot,
John Anderson my jo!"

Footnotes

1. *Aging and Society—Volume One: An Inventory of Research Findings* (New York: Russell Sage Foundation, 1968), p. 141.
2. Mark Mirsky, "The G & G on Blue Hill Ave.," *Boston University Journal* 19(Winter 1971):35-44.

(Continued on page 118.)

An Approach to Providing Services to Aged Blind Persons

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Blind people, especially older blind people who need assistance with personal, social, or recreational problems, have few options available to them. They may use the facilities of geographically distant and specialized agencies or they may sit alone at home or in the midst of families who often neglect them. Local community facilities serving the sighted are not open to them and blind people requesting help from such agencies are usually referred to agencies serving the blind exclusively, regardless of the nature of the blind person's problem.

In blind service agencies, clients may be offered rehabilitation training (orientation, mobility, grooming, work skills, etc), but often these skills fall into disuse because opportunities for using them are limited. In addition, some blind people, particularly those who are elderly, do not use or even know about agency services.

Because of the many demands upon them from a constantly growing clientele, many agencies limit the attendance of clients to one or two days a week. Clients so limited are at a loss concerning how to use the remaining days of the week with any sense of self-fulfillment. The agencies also tend to give aged people a low place on the priority list of groups to be served.

Integrating Blind Persons

☐ Occasional efforts to integrate blind people into community agencies have failed because the blind people involved could not achieve integration by themselves and because the agencies did not have the knowledge, the time, or even the desire to undertake the difficult re-education program for the staff, the community, the sighted clientele, and the blind person that would be required. Also to be considered is the fact that blind people are as suspicious of, or even hostile to, sighted people as they find (or believe) sighted people are toward them.

Approaching the problem

In order to make a sound effort to reverse these trends, a specific program approach is required, one that accepts each blind person as he is—an individual who has a greater or lesser capacity to integrate; one that sets its pace by the pace of the participant; and one that fully provides the help that is needed in order to achieve the objective. It should also be recognized that if the resources of the total community could be opened for use by blind people, these individuals could significantly improve the quality of their lives, expand their options substantially, and be freed to pursue the associations and interests that they had before becoming blind.

This article is based on a paper read before the 48th Annual Meeting of the American Orthopsychiatric Association, March 22, 1971.

VCB's approach

Recognizing this situation, Vacations and Community Services for the Blind (VCB) began several years ago to develop local community-based programs for blind persons. VCB has long been active in providing services for blind persons—its Vacation Camp for the Blind has been providing year-round activities for blind campers since 1926.

Establishing "Bridge Centers"

☐ In this experimental project, the goal is to integrate services available to blind persons with those available to the sighted. The basic idea is to establish a center in the community that serves as a bridge by which aged blind persons may enter and enjoy community programs and services otherwise limited to the sighted. To date eight "bridge-centers" have been set up, along with a special program in cooperation with a city hospital and another in response to a request for recommendations from a home for the aged.

VCB's contacts with approximately 2,000 blind people, through its camp and social services activities, have resulted in the easy location of clusters of blind people in local communities. Neighborhood community centers with existing programs for older adults were approached and their cooperation enlisted. VCB staff members were assigned and volunteers recruited to assist. The groups of blind people meet regularly on a once-a-week basis; moves toward integrating them with the programs sponsored by the host agencies have been initiated.

Objectives

The primary objective of the project is to help blind adults to make use of such a neighborhood center and, for those who are able, to help them move from this stage to the use of other community agencies and resources. To be successful, this must be done without pressure or urging but through the utilization of all opportunities that arise that would foster such results. The problem is both motivating clients to acquire skills in independent living and to continue using them after training is completed.

The agency's experience over the past 15 years has revealed that there are a large number of clients who lacked, but who could benefit from, training in the skills of daily living, i.e., mobility, grooming, self-care, social relationships, use of community resources for meeting general and leisure-time needs, etc. Often, however, it was discovered that many of these clients had already received some training of this kind but had retained only a small part, if any, of the acquired skills.

Motivating clients

Discussions with clients and professionals regarding the content of existing training programs led to the conviction that successful training for these skills is dependent on the degree to which it is related to the social problems concomitant to blindness. For example, motivation for attaining mobility skills relies on having some place to go. Although grooming is dependent on attitudes toward self, it is also strongly related to having others for whom one grooms. Thus the effect of the onset of blindness on the individual's relationship with family, fraternal, and other reference groups is of central significance in determining whether or not the blind individual will be motivated for, take advantage of, and maintain gains in training.

Membership

In developing a social group for blind people in a local community center (preferably one where there are already existing activities for the older age group in which they can participate if they wish), the aged blind people themselves must be allowed to play a key role and to become formal members of the center through the payment of membership dues. This arrangement facilitates the acceptance of the blind persons by others using the center.

Special Group for the Blind

☐ This kind of social situation which offers attendance at their own group meetings, contacts with sighted people in the center, opportunities to attend special events sponsored by both groups, etc., arouses realistic challenges with compelling reasons for mobilizing one's skills and acquiring new skills in social functioning. Further, a group specifically for blind people enables them to discuss and work out common problems, learn from each other, and clarify their reactions to sighted persons and to the host agency. Here they can plan and carry out activities; they can learn of resources and services available to them. The separate group is a refuge for them if they need it, but it is also a springboard for moving into integrated activities with the sighted as they feel able to do so.

Staff and volunteer involvement

The assistance provided by staff and volunteers enable the members of the blind group to make their way with sighted groups without making undue demands upon the resources of such groups. By the same token, staff and volunteer involvement enables those blind persons who are unable to take advantage of opportunities in sighted groups (because of emotional handicaps, inability to master techniques of mobility or self-care, personal idiosyncrasies, disturbing mannerisms, etc.) to draw as much from their experience in the center as possible. Some of these problems may perhaps be overcome eventually; others may not. For the protection of such persons, for support to others who are attempting to develop resources to cope with the requirements of the sighted setting, for help to persons who have other problems arising out of their blindness, a separate group for blind persons is necessary. There is reason to believe, however, that all members of these groups make progress in this setting; such progress evidently stems from a climate of increased confidence in coping with the sighted setting that develops in the groups.

Supplying needs

The assistance provided by staff and volunteers might include the provision of brailled song sheets for a member of a choral group, special containers for different items in a crafts group, brailled tape markers where needed, or escorting a blind person to a special event. Staff members also make efforts to locate specific programs or activities in the center or in the community that might be of interest to particular members of the group, for example, accompanying a reading group to a famous writer's home that is now kept as a museum, going with a delegation to the state legislature to plead for the special needs of older people, or joining a church choral group.

Special services

Because of the problems arising out of, or intensified by, their blind-

ness, most aged blind persons need the help of social workers and interested sighted persons at one time or another in negotiating the complicated social service structure in the community, for counseling, and for practical assistance (shopping, reading or writing mail, locating housing, etc.). Volunteers, as representatives of the local community, can not only assist the professional worker, but can also help to open doors to further local help and services. Their contact with blind persons provides the insights and understandings which enable them to encourage movement toward greater acceptance of blind persons in the community.

Continuing Education

☐ An important responsibility of the agency for the blind that is involved in such an effort is the provision of orientation and assistance to local professional staffs to help alleviate their fears and to increase their comfort and ability to work with blind persons. VCB staff have encountered early hostile feelings on the part of the local community center staffs toward the blind service agency and fears concerning work with blind clients. Meeting with the staff, discussing their concerns about the supposed limitations of the blind and apparent limitations of staff in serving them, and agreement that VCB will provide guidance and assistance in relieving them of burdens they anticipate, tend to reassure the staff and enable them to approach the new situation with less trepidation. Naturally, teaching some of the simple techniques involved in guiding blind people and providing a few other concrete pointers are essential in helping to restore their confidence.

Finding clients

An effort should be made to discover the blind persons in the community who may not be aware of available resources and to publicize the activities and services of the agency. A recent sample survey done for VCB by two graduate social work students yielded contacts with several blind persons within a five-block area who had had no contact with an agency for the blind. These contacts were made on the basis of information supplied by mailmen, druggists, grocers, doctors, and clergymen, among others, who had themselves been provided with information about blindness and services for blind persons.

Comments by clients

Special attention needs to be given to the discovery of newly blinded persons. As described by some of them, the onset of blindness brought on feelings of depression, inadequacy, and rejection by the community, neighbors, friends, even relatives. One blind person said, "I went into a state of something like shock. I thought everything was over. I wanted to give up my apartment and just go and stay with my daughter until the end came. I just didn't know." Another individual commented: "When one is afflicted with a short malady, such as typhoid or pneumonia, the patient, the sufferer, finds himself besieged by a good many of his so-called friends, who are worried about his condition. They call upon him; they bring him messages of cheer and everything else. But when one becomes afflicted with the loss of sight, it's a chronic condition and your friends become tired of coming over to see you. You're all alone." Another: "I live with children who

say, 'You stay in that room and don't you dare come out, because I've got company coming.' "

Importance of Early Contact

☐ Their tendency was to withdraw into isolation. They expressed a need for early contact by an agency; they added that if significant progress is to be made, persistence on the part of the agency is necessary, with the offers of assistance repeated often despite the rejection by the newly blinded person. Some who have been blind for a long time attribute the persistence of similar feelings to the early absence of help. Therefore, help given early and on the scene, work done with relatives and neighbors and in the community generally, and attempts to sustain the client's prior contacts with individuals and groups could be beneficial in affecting positive adjustments.

Educational Services for Visually Handicapped

☐ A valuable service to the visually handicapped but still sighted members of the host centers (persons who are concerned about failing eyesight, diabetes, etc.) can be provided by instituting an educational program on developments in eye care, treatment, and the services available to help them. Where possible, an eye-screening program can be instituted for the older members of the center. Help in using their remaining sight as fully as possible can be given through the use of large-print publications and aids and appliances developed for the visually handicapped. Bringing in an ophthalmologist to answer the members' questions helps to dispel many "old wives" tales about eyesight. Discussion sessions help members to express feelings, describe problems, and receive suggestions.

Involvement with other agencies

Other community agencies, e.g., homes for the aged, senior citizens' programs, local offices of the state department of social services, ophthalmologists, etc., should be assisted in serving the visually handicapped people with whom they come in contact. If requested, the agency can participate in the staff orientation programs of such agencies and recommend new program approaches and resources. At the request of a city hospital in one of the communities where a "bridge program" is located, a continuing program has been established by VCB to reach out to elderly visually handicapped people in the community, including former hospital patients, current patients, and others in the community who have heard about the program and wish to apply. An eye-screening program is being developed; an eye clinic that has not been used to its fullest capacity is being put to new uses; members are able to use all of the other facilities of the hospital. The program is sponsored by the hospital's psychiatric division with the cosponsorship of VCB, which has also provided some staff and the necessary training for the hospital staff. At the request of a home and hospital for the aged in another community where a VCB "bridge center" operates, VCB did a study, provided a set of program recommendations, conducted an orientation session for the home and hospital staff, and provided an extended training program for a social work department staff member.

Cooperative programs

(Continued on page 119.)

The On-Site Review: NAC at IHB

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Since the inception of the National Accreditation Council for Agencies Serving the Blind and Visually Handicapped (NAC) in 1967, 39 agencies and schools for the blind have been accredited. In achieving this status, each of them successfully completed a complex, many faceted process. At present there are quite a number of agencies involved in one step or another of the process and even more are contemplating involvement. This article is intended to clarify just one of the steps—the on-site review.

The Self-Study Process

☐ The heart of the accreditation process lies in the self-study and evaluation guides published by NAC. Through the use of these practical working tools, agencies, sheltered workshops, and residential schools for the blind are able to assess their strengths and weaknesses and, with the help of these assessments, to plan for improved services in the future. When self-study is undertaken with accreditation as a specific goal, however, additional depths and dimensions accrue. Most significant among these is the validation of the agency's own findings provided by an objective group of professional colleagues during an on-site visit. The experience of having a program reviewed by qualified professional peers is also apt to produce fresh, problem-solving insights.

Function of the On-Site Review

☐ The function performed by the visit of the on-site review team in the accreditation process is intimately bound up with the self-study phase. In its self-study, the agency evaluates itself within the framework of the standards embodied in the guides and in the light of its own stated purposes and objectives. Then the on-site review team assesses the validity of the agency's self-evaluation through observation of agency work in progress, meeting with agency staff responsible for its administrative activities and service programs, review of records, and examination of the agency's plans for making needed improvements. Basic to the evaluations of both the self-study and on-site review phases of the accreditation process is the principle of perfectibility, for it is not perfection that is sought, but the willingness and ability of the agency to remedy any existing deficiencies within a reasonable period of time.

The on-site review team

The on-site review team, consisting of at least three members who serve on a voluntary basis, is appointed by NAC from its panel of professionally qualified persons. Following the on-site visit itself, the team members, whose number varies depending on the size of the agency, the diversity of its services, and the geographic dispersion of its units, prepare individual reports on the specific aspects of the agency under review. These individual reports are then considered by the team as a whole and an overall report, which includes both commendations of strengths and recommendations for needed improve-

ments, is prepared and submitted to the Commission on Accreditation of NAC.

Actions of the Commission on Accreditation

☐ On consideration of the report and recommendations of the on-site review team, the Commission arrives at a decision based on a total evaluation of all the data presented. It will then take one of four actions: 1) approve the agency for accreditation and award accredited status for a full five years contingent on the agency's compliance with all other requirements for membership in the National Accreditation Council; 2) approve the agency for accreditation for a period of less than five years during which time specific weaknesses can be corrected (review at the end of the shorter period may result in extending accreditation for the full five years or in withdrawal of accredited status); 3) postpone final action, specifying the reasons for its decision and outlining the steps the agency may take to remove obstacles in the way of accreditation; or 4) deny accredited status, specifying the reasons for its decision and perhaps setting a date for reapplication. All accredited agencies submit annual reports to NAC and are subject to re-evaluation every five years.

The Industrial Home for the Blind

☐ The balance of this article is aimed at conveying a general impression of the many facets of an actual on-site review team visit. The photographs and descriptions presented here represent a brief summary of only part of the first day of a three-day on-site review conducted at the Industrial Home for the Blind (IHB) on September 20-22, 1971. The IHB, a large multi-service agency headquartered in Brooklyn, New York, maintains a variety of facilities and service centers throughout Long Island. John F. Brady serves as executive director; the Hon. John H. Finn is president; Dr. Peter J. Salmon is administrative vice president. Full accredited status was granted to the Industrial Home for the Blind by the NAC Commission on Accreditation in December 1971.

Members of the review team

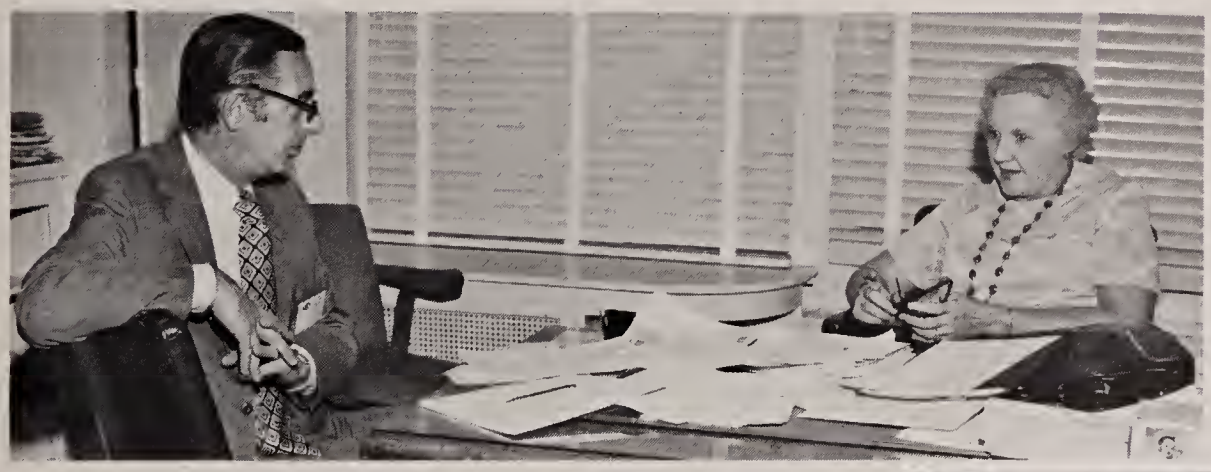
The members of the NAC on-site review team who visited IHB were: Harold G. Roberts, American Foundation for the Blind (chairman); Frederick A. Silver, Catholic Guild for All the Blind, Newton, Massachusetts (assistant chairman); Doris L. Berryman, School of Education, New York University; Malcolm G. Bruce, Cincinnati Association for the Blind; Jessamine E. Cobb, American Foundation for the Blind; Huesten Collingwood, National Accreditation Council; Mary J. Doane, New York State Commission for the Blind and Visually Handicapped; Milton T. Freburger, Maryland Workshop for the Blind; Helen M. Gromann, New Jersey Commission for the Blind; Carol Halliday, Kentucky Mental Retardation Board; Robert Hampton III, CPA, S. D. Leidesdorf & Co., New York City; Marjorie S. Hooper, American Printing House for the Blind; Arthur H. Korn, Branch of Handicapped Worker Problems, U.S. Department of Labor; Louise N. Mumm, social welfare consultant, formerly with the National Social Welfare Assembly; Edwin H. Prescott, Methodist Church Home, Bronx, New York; Gale N. Stickler, New Hampshire Association for the Blind; Julian G. Stone, Youth Consultation Service, Newark, New Jersey; Lyle H. Thume, Rehabilitation Institute, Detroit; Louis Vieceli, Southern Illinois University; Belle B. Wiggins, National Accreditation Council.

"In the final analysis, the primary criterion for evaluating an agency's buildings and grounds is their suitability for effective service. New structures and furnishings do not guarantee meaningful, needed services, nor do old facilities necessarily negate the conduct of helpful and needed programs. Good physical facilities enable an agency's staff to assist blind and visually handicapped persons to function more competently, more maturely, more independently; they simultaneously enable the persons served to be recognized as individuals of uniqueness and worth, with the end result of motivating these persons to develop their potentials and assume roles in society." *Self Study and Evaluation Guide*



RIGHT: Team members Huesten Collingwood (left) and Edwin H. Prescott (center) begin their inspection of the physical facilities of the IHB in the sixth floor lobby and reception area of 57 Willoughby Street, the agency's headquarters in downtown Brooklyn. Lewis Thompson of IHB conducted the tour and answered the team's questions.

BELOW: Harold G. Roberts, chairman of on-site review team, was also responsible for the evaluation of IHB's service reporting system. He is shown here examining records and discussing reporting procedures with Elizabeth Maloney of IHB.



"Service statistics are primarily of value in determining quantitative aspects of an agency program. Among the benefits derived are facts relating to numbers of persons served, the segments of population being served, the amounts of staff time required to provide specified kinds of service, the kinds of problems brought to the agency and the manner of their disposition." *Self Study and Evaluation Guide*

"Recreation services for blind persons must offer a variety of activities to meet the range of individual needs. There needs to be awareness that sensory deprivation limits some activities, and that teaching techniques may need modification or adaptation. Nevertheless, the service must focus on the person and not on his visual handicap. The cardinal principle remains that what is done *by* the person is more important than what is done *for* him, and that what happens *to* the person as a result of the recreative experience is of the greatest importance of all." *Self Study and Evaluation Guide*



RIGHT: Morton Schlein (left), who is in charge of IHB's recreation program at the Brooklyn Service Center, and Doris Berryman (standing next to Schlein), chairman of the on-site review team subcommittee on recreation services, watch clients playing shuffleboard.





ABOVE, LEFT: One of the activities of the IHB Industries facility on Gates Avenue, Brooklyn, is the manufacture of wet mops. Here (left to right) IHB's Edward Gates and team members Arthur H. Korn, Milton T. Freburger, and Malcolm G. Bruce, chairman of the subcommittee on sheltered workshops, observe the cutting and sewing of mops.

ABOVE, RIGHT: Left to right: IHB's Joseph Larkin, Mr. Bruce, Mr. Korn (partially hidden), and Mr. Gates, watch a deaf-blind employee packaging finished mop heads.

"In the context of the standards herein presented, a sheltered workshop for blind persons is defined as a non-profit organization, public or voluntary, operated for the purpose of providing work training and employment to blind persons who are unable to meet the requirements of regular competitive employment, or for whom such employment is not available. Its objectives may be any one or a combination of the following: To utilize work for rehabilitation purposes related to employment; To help develop employability for placement in competitive employment; To provide extended remunerative employment." *Self Study and Evaluation Guide*

"It is fundamental that [a rehabilitation center] provide a variety of services and, further, that these services be organized into an individualized program for each client—a program based upon a careful evaluation and assessment of the client's needs and his potentials to use and benefit from the center's services. The services themselves, the degree to which they are integrated for each client's individual needs, the active collaboration of the center's multidisciplinary team, the dynamics of interaction of these forces on and with the client—all these create a climate which stimulates both achievement and adjustment." *Self Study and Evaluation Guide*





ABOVE: At the IHB Rehabilitation Center in New Hyde Park (Long Island), Jane Wheeler of IHB (left) and team members Belle B. Wiggins (center) and Helen M. Gromann (subcommittee chairman) discuss rehabilitation teaching in a communications classroom.

LEFT: Team member Lyle H. Thume (left) discusses IHB's psychological testing program with psychometrist John Desposati.

"Vocational evaluation services are an integral part of the rehabilitation center program. The assessment of client development embraces: applicable psychological testing; aptitude testing; work history; simulated work situations: work samples, rating scales, observational notes; summation and work prognosis." *Self Study and Evaluation Guide*



RIGHT: IHB's Leon A. Jozefowicz (left) answers the questions of team member Louis Vieceli during his observation of the assembly exercise and testing program at the Rehabilitation Center in New Hyde Park.
RIGHT, BELOW: In another part of the Work Exercise Area, Mr. Vieceli watches and listens as Mr. Jozefowicz talks with two clients on the completion of their assigned tasks.







LEFT, ABOVE: Mobility instructor Sheldon Shamitz (right) conducts a lesson in descending stairs while being observed by Frederick A. Silver (center), assistant chairman of the on-site review team and chairman of the subcommittee on rehabilitation services.
LEFT: Mr. Silver (left) watches an in-service training lesson involving IHB mobility instructors Frank Primeggia (center) and John Maxson.

"Systematic teaching of travel, whether with dog guide or cane, and of the use of sound, residual vision, low vision aids and other aids has resulted in making independent travel feasible for large numbers of blind and visually impaired persons and in making improved travel possible for many others. Involving the life, limb and dignity of blind persons, mobility teaching can be considered responsible only when it is quantitatively and qualitatively adequate." *Self Study and Evaluation Guide*



LEFT: IHB's plans for the expansion of its services and facilities were presented by Lewis Thompson of IHB to team members Huesten Collingwood (left) and Edwin H. Prescott (right).

By late afternoon, most of the team members had returned to their base of operations in a downtown Brooklyn hotel to discuss their observations and to prepare their evaluation reports. BELOW, LEFT: Louise N. Mumm and Julian G. Stone prepare their reports on personnel administration and volunteer service. BOTTOM, LEFT: Left to right: Jessamine E. Cobb, Gale N. Stickler (chairman), Carol Halliday, and Mary J. Doane discuss their observations of IHB's social services. BELOW, RIGHT: Robert Hampton III types his report on IHB's financial accounting procedures. BOTTOM, RIGHT: Team chairman Harold G. Roberts prepares his subcommittee report on service reporting.









The Relationship Between Intelligence and the Mastery of Mobility Skills Among Blind Persons

LESTER H. LEHON

Mr. Lehon is a doctoral student in special education at Teachers College, Columbia University, New York City.

Increasing the ability of all blind persons to travel safely and with confidence is a major need. Blind persons must be able to travel in order to meet the demands of everyday life, both in moving about the immediate neighborhood and in going to more distant points. Since blind persons, whether they are congenitally or adventitiously blind, do not have an innate sense of mobility, travel competency is a skill which, in most cases, they must acquire through instruction.

Brief Review of the Literature

☐ Although there are different mobility modes available to the blind person, the most common method is the use of the cane. While an increasing number of studies on the mobility process are appearing, few as yet have systematically investigated the relationship between selected human attributes and success in mobility instruction. Research regarding the relationship between the intelligence of a blind person and mobility instruction using the cane technique is meager.[5,13] Murphy[9] has suggested that "what is needed is a professional interpretation of each prospect's intelligence—that is, his type, his potential, his limitations, and why he is as he is. With this information a competent mobility specialist could decide what training would be of most help to the trainee." Murphy[8] also notes, however, that there are many difficulties involved in determining such factors because of the improbability of finding a true sample of "blind individuals."

The following is a brief recapitulation of the conclusions drawn in five articles in which the role of intelligence in the acquisition of mobility skills is specifically considered.

Graham[2] noted that if intelligence is a determining factor in the acquisition of mobility skills using the cane technique, then it might be practical to devise a readiness test for mobility instruction using a score on a particular test. Murphy[9] presented a case study in which it was shown that a blind mentally retarded adult (Wechsler Adult Intelligence Scale, Full Scale IQ 58) could learn mobility, although only a small amount of training in the use of the cane was attempted in this case. Seelye and Thomas[10] presented a case study in which it was shown that a blind mentally retarded child (Hayes-Binet IQ 51) was able to learn cane technique after a long period of instruction. Menzel, Shapira, and Driefuss[6] omitted intelligence from their "Mobility Training Readiness Test," noting that there was "agreement among some of the mobility instructors that many highly intelligent blind people find mobility and spatial orientation very difficult, while other less intelligent candidates are good in all phases of mobility." Gallagher[1] correlated the Haptic Intelligence Scale for Adult Blind (HIS) with rat-

Instructing the mentally retarded

HIS correlation

ings of the travel skills of 33 blind adolescents. He found that the full HIS IQ correlated significantly with the travel ratings, as did the Pattern Board subtest. It was therefore inferred that an individual's translation of environmental stimuli requires specific learning abilities and that deficits in any of these intellectual areas could hamper the acquisition of mobility skills. These results suggested a means for providing a more concrete and objective method for the selection of candidates for mobility instruction.

Subjects of the Present Study

☐ The present study is an investigation of the relationship between the intelligence of mobility students and the adequacy and rate of their acquisition of mobility skills. The 90 blind persons used for this study were initially chosen because of the presence of an intelligence score in their rehabilitation center file and because their visual acuity was 5/200 or less.[1] (All of the subjects had other impairments in addition to blindness and should therefore be considered a part of the group known as multiply handicapped blind persons.) The age range of the subjects was 17-60 years, with a median age of 35 years. All subjects had had some formal schooling. All had been randomly assigned to mobility instructors.

Three groups

The chosen subjects were divided into three groups according to intelligence level (IQ)—as determined by the Verbal Scale of the Wechsler Adult Intelligence Scale (WAIS)[12] as adapted for the blind[11]— 1) above average intelligence (110-135+); 2) average intelligence (84-109); and 3) below average intelligence (50-83).[3] Within each intellectual level, 30 subjects were chosen by using a table of random numbers.

Instruction of subjects

All subjects received an initial four weeks of mobility training at the Industrial Home for the Blind Institute of Rehabilitation (IHBIR), Long Island, New York.[4] The adequacy of each subject's learning was rated by the instructor using the IHBIR evaluation forms and the New York State Commission for the Blind general evaluation form. If a subject's skills were rated as adequate at the end of the initial training period, that fact was reported on the evaluation forms and his instruction was terminated. If a subject's learning was reported as inadequate, he was considered for additional instruction. Such subjects continued receiving instruction until the instructor either felt that the learning was adequate or deemed that the subject could not profit from further instruction. The rates of acquisition and the levels of achievement used in this study were those determined at the close of each subject's last period of instruction.

Analysis of Data

☐ The independent variable in this study was intelligence. The two dependent variables were rate of acquisition of the required skills (weeks to success) and level of achievement. An analysis of variance was performed between intelligence and rate of acquisition, with the number of weeks above the standard period being used as the measure for above chance expectation of the acquisition of skills. The results of this analysis (Table 1) revealed a significant difference at the .01 level ($F = 5.1072$; $df = 2,87$). Tukey's analysis revealed that the difference

is between the above average and the below average intelligence groups at the .01 level (q = 8.592; df = 3,60). A 3 × 2 chi square was performed on the data involving level of achievement. The results of this analysis (Table 2) indicated no significant difference between group frequencies (X^2 = 2.25 df = 1).

Findings

☐ The findings of this investigation of the relationship between intelligence, level of achievement in acquiring mobility skills, and the rate of acquisition of these skills were:

1. Subjects with less than average intelligence acquired mobility skills at a significantly slower rate than subjects with above average intelligence. This finding seems to confirm the observations of Murphy[9] and Seelye and Thomas[10] who also found that it required a longer time for retarded blind persons to learn the necessary skills for travel. (It should be noted that their findings were derived from case studies rather than experimentation.)

2. The level of achievement reached in mobility skills, as a result of training, was not a function of intelligence. This finding was underscored by the absence of any significant relationship between WAIS score and mobility achievement. Both Murphy[9] and Seelye and Thomas[10] also noted that the retarded blind individuals in their samples were capable of learning mobility skills.

TABLE 1

Analysis of Variance—Intelligence x Rate of Acquisition

	SS.	*df*	*MS.*
Between	1.3724	2	.6862
Within	11.6895	87	.1344
Total	13.0619	90	

F = 5.1071 (significant [F = 4.88; df = 2,87; $p < .01$])

TABLE 2

Level of Achievement x Intelligence

Achievement	*Intelligence*			
	Above Average	*Average*	*Below Average*	*Totals*
Adequate	27	26	22	75
Inadequate	3	4	8	15
Totals	30	30	30	90

X^2=2.25; df=1; $p > .05$ N.S.

Discussion

☐ These findings appear to indicate that intelligence is a factor in the retarded blind person's *rate* of acquiring mobility skills but not in his *ability* to acquire those skills. Although intelligence seems to play some role in a retarded blind person's experience in acquiring travel skills, other factors, e.g., physical condition (age, hearing, etc.), personality, and motivation, may also affect his ability to achieve; this of course cannot be determined without further investigation. In the light of the findings of the present study, it might be well for mobility instructors to continue teaching mobility skills to a retarded blind person well beyond the "normal" instructional period since the retarded person probably will learn, although at a slower rate than blind persons of above average intelligence.

It should be noted that in the present study, no attempt was made to determine the complexity of instructions, instructional techniques, or type of instructor. It is assumed, however, that the IHB mobility instructors did key their educational activities to each client's level, enabling them to achieve satisfactorily at this slower rate. It should also be noted that since this study was conducted at only one agency, the generalizability of these results might be limited by the practices in this setting.

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The author wishes to express his gratitude to Dr. Robert A. Bowers, coordinator of the Program for the Visually Impaired, Teachers College, Columbia University, for his help during the planning and execution of this investigation.

A Look at Aging—*Continued from page 103.*

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4. Alvin Toffler, "The Future as a Way of Life," *Horizon* 7(Summer 1965): 108-15.
5. Alvin Toffler, *Future Shock* (New York: Random House, 1970).
6. Toffler, "The Future as a Way of Life," op. cit., p. 110.

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An Approach to Providing Services to Aged Blind Persons—*Continued from page 108.*

The VCB "bridge center" groups have developed at different speeds and some have been more successful than others. It may be seen, however, that the approach described above offers a promise for the development of more effective services to older blind people.

Problems

☐ Nevertheless, several problems that require continued attention must be noted: 1) Success in integrating blind people into sighted settings requires programs in the host agency that are of enough interest to motivate the blind client; such programs also need to take place at times that make them accessible to blind members. Such factors have led VCB to shift one or two groups from one community center to another. 2) The recruitment of volunteers is difficult, particularly in some low income neighborhoods. As noted, volunteers play an important role in this program and efforts are still being made in difficult instances to recruit volunteers from other areas. 3) Providing transportation for blind members is an essential requirement for the success of the program; blind people, especially elderly blind people, have considerable difficulty in getting around. Public transportation is often inaccessible, offers some dangers, and is expensive for the clients. 4) Weather can have an important effect on the program. Under some conditions, attendance at group meetings falls off sharply, interfering with the success of the group. Accordingly, groups must be large enough to accomodate such a situation, while not becoming so large as to be unwieldy. This problem further underscores the need for the provision of transportation.

These problems, however, need not be permanent stumbling blocks, nor do they cancel out the positive results already achieved. The scope of the problem that exists for aged blind persons and the projected growth of the problem require these and other new directions and efforts toward the fuller use of existing community resources.

Blindness in England

THE NEW BEACON

The statistics of the blind and partially sighted in England for the year ended 31 December 1970 published this month [October 1971] by the Department of Health and Social Security show that the total numbers on the registers of the blind and partially sighted have continued to rise, although the numbers of new registrations have been falling slightly. The main increases in the blind population were in the oldest age groups, as one would expect, and in 1970, for the first time, the percentage of those aged 65 and over topped the 70 mark to reach 71 percent. Sixty-three percent of the registered partially sighted were aged 65 and over. The employment rate (for those who wished to work and were capable of working) remained almost constant at 85 percent, although the number in employment fell. The statistics on education, additional handicaps, and accommodation have shown little change over the last three years.

71% are 65 or older

207 per 100,000

☐ Although the total number of people registered as blind has continued to rise, the rate per 100,000 of population has remained at 207. New admissions to the register of the blind have decreased only slightly from 1969 to 1970, compared with the substantial fall of almost 750 from 1968 to 1969. Amongst the partially sighted, the total registered and the rate per 100,000 of population have increased by 3.2 percent and 2.9 percent respectively from 1969 to 1970, although the number of new registrations has fallen by four percent.

Changes in each age group

The largest increase in the number of those registered as blind in 1970 was in the 90 and over age group, where the total rose by 8.3 percent, from 7,389 in 1969 to 8,003. There were also increases in the 80-84 and 85-89 age groups, but in the age range 16-79 there was, overall, a decrease of 429. The changes from 1968 to 1969 were very similar.

Blind infants

The number of infants under one registered as blind at the end of 1970 was 18, twice the number on the register at the end of the previous year, but the number of new registrations of children under one during the year had dropped from 31 in 1969 to 26. In the other age ranges differences were less marked.

The Partially Sighted

☐ Comparing 1970 with 1969, the greatest increase in numbers on the register of the partially sighted was in the 65 and over age group, which increased by 806 to 21,432 (3.9 percent). There were small increases in most of the other age groups. In 1970, 1,989 partially-sighted people were admitted to the register of the blind and 248 were decertified owing to improved visual acuity. These figures are in line with recent trends, fewer people being transferred to the register of the blind and more being decertified because of improved sight. Removals

from the register of partially sighted on admission to the register of the blind fell by 3.2 percent in 1970 compared with a drop of 1.4 percent in 1969, and removals due to improved sight rose by nine percent in 1970 compared with 35 percent in the previous year.

Employment

☐ The figures for the registered blind in employment at the end of 1970 show as overall decrease of 286 (3.2 percent) compared with a decrease of 174 (1.9 percent) in the previous year. However, those people who were unemployed but capable of and available for work fell by 96 (six percent), compared with a rise of 52 (3.3 percent) in the previous year. The overall employment rate of those who wanted work, excluding those undergoing training, was 85.2 percent in 1970, compared with 84.8 percent in 1969 and 85.5 percent in 1968, indicating a fairly static position even though the actual numbers in employment fell. The number of the partially sighted in employment has continued to rise (by 1.6 percent), and the number of unemployed available for and capable of training for work has fallen (by 2.2 percent), reversing last year's trend.

Occupations

For the registered blind who are employed, the commonest occupations are machine operator, fitter or assembler, telephone operator, typist or secretary, basket-maker, and brush-maker. Since 1969 there have been decreases of 10.7 percent and 8.4 percent in the number of basket-makers and brush-makers respectively, and minor increases in the numbers of machine operators, fitters, and assemblers.

Additional Handicaps

☐ At the end of 1970 the number of those registered blind with additional handicaps was 21,806 (23 percent of all registered blind), compared with 21,682 at the end of 1969, a rise of one percent. Of those additionally handicapped, 10,341 suffered from additional physical disabilities, 4,840 were hard of hearing, and 2,747 were either mentally ill or mentally handicapped.

In hospitals or residential homes

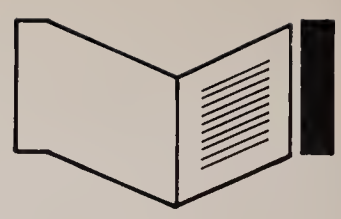
There were 6,995 registered blind people accommodated in hospitals or residential homes under section 12(a) of the Health Services and Public Health Act 1968 at the end of 1970. Comparable figures for earlier years are unavailable because of changes in the statistical returns. The number of blind people accommodated in hospitals was 4,011 a decrease of 204 (4.8 percent) over last year's figure of 4,215. Ninety-nine fewer were in hospitals for the mentally ill, 22 more in hospitals for the mentally handicapped, and 127 fewer in other hospitals.

Children

☐ The total of registered blind children in the age range 5-15 was 1,658. Those being educated in non-special schools rose again, to 171, an increase of 28, and the number in hospitals for the mentally handicapped fell by 43 to 240. For the partially sighted, the education statistics are not strictly comparable with those of previous years. . . .

Excerpted from The New Beacon, *October 1971; reprinted with the permission of the publisher, Royal National Institute for the Blind, London.*

Current Literature



Our Blind Children: Growing and Learning With Them, by Berthold Lowenfeld. 3rd ed. Charles C Thomas (301-327 East Lawrence Avenue, Springfield, Illinois 62703), 1971, xv + 244p. $8.50. This new edition of Dr. Lowenfeld's useful book has been updated throughout. It also contains an added chapter concerning the multiply handicapped blind child.

Proceedings of the World Assembly of the World Council for the Welfare of the Blind, held at Vigyan Bhavan, New Delhi, India, October 8-17, 1969. The Council [1971], vii + 362p. $2.00. (Order from World Council for the Welfare of the Blind, Mme. Marcelle Cowburn, Secretary General, 58 Avenue Bosquet, 75—Paris 7e, France) "The Blind in an Age of Science" was the theme of W.C.W.B.'s Fourth General Assembly. Three to four papers on each of the following topics are included: (1) Communication in an Age of Science; (2) Preparing the Blind to Live in an Age of Science; (3) The Blind at Work; (4) Social Service as an Aid to Fuller Living; (5) Science in the Service of Sight; (6) Recreation for the Blind in a Scientific Age; (7) What Next in Science and Technology; and (8) Mutual Assistance in the Next Five Years.

The World Will Never Be So Small Again: A Thanksgiving Story From a Blind Reader, by Robert Russell. *Wilson Library Bulletin* (H. W. Wilson Company, 950 University Avenue, Bronx, New York 10452), Vol. 46, No. 3, November 1971, pp. 238-45. $1.00. Dr. Russell, blind since the age of five, tells of the great influence the talking book program of the Library of Congress had upon his life.

Geographical Concepts and the Visually Handicapped, by Frank L. Franks and Richard M. Baird. *Exceptional Children* (The Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 S. Jefferson Davis Highway, Arlington, Virginia 22202), Vol. 38, No. 4, December 1971, pp. 321-24. Brief report on the testing of three-dimensional, raised-surface models designed to represent geographical concepts both tactually and chromatically as an aid for blind and partially sighted students.

A Comparison of the Effectiveness of Standard Print and Large Print in Facilitating the Reading Skills of Visually Impaired Students, by Kim C. Sykes. *Education of the Visually Handicapped* (1839 Frankfort Avenue, Louisville, Kentucky 40206), Vol. 3, No. 4, December 1971, pp. 97-105. In line with the current interest in encouraging visually handicapped children to make the maximum use of their residual vision, this is a report on a study conducted with 24 legally blind and 17 partially sighted students in grades eight through 12.

Sensory Aids for the Blind: Are They Automatic Bonus or Needed Tools? by Harvey Lauer. *Education of the Visually Handicapped* (see address above), Vol. 3, No. 4, December 1971, pp. 111-15. The author, who is himself blind, is electronic reading specialist in the Central Rehabilitation Section for Visually Impaired and Blinded Veterans at the Veterans Administration Hospital, Hines, Illinois.

Idleness Isn't on the Agenda. *The Lion* (Lions International, York & Cermak Roads, Oak Brook, Illinois 60521), Vol. 54, No. 7, January 1972, pp. 10-13. Picture story of the Colorado Lion's Foundation Center on the edge of Pike National Forest, a summer camp for blind and partially sighted children. —M.M.R.

Additional Listings

Feast on a Diabetic Diet, by Euell and Joe Gibbons. Hardcover: David McKay Company, Inc. (750 Third Avenue, New York, New York 10017), 1969. $7.95. Paperback: Crest Books (Fawcett Publications, Inc., Fawcett Place, Greenwich, Connecticut 06830), 1971. 95 cents. A cookbook featuring tempting and exotic foods for diabetics. Features special sections on feeding the diabetic child, jams and jellies, diabetic recipes that freeze well, and an in-depth report on sweeteners.

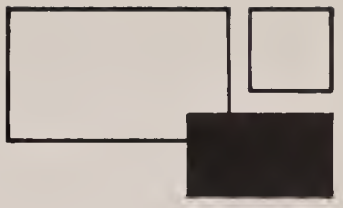
Good Eating, by Margaret Finley. California State Department of Social Welfare (Publications Unit, 744 P Street, Sacramento, California 95814), 1971. 32p. Available free to administrators of residential and family care facilities in California; 50 cents to all others. Written by a home economist, this booklet is a low-budget nutrition guide intended for use in homes and facilities providing services for 50 persons or less.

State Law and Handicapped Children: Issues and Recommendations. Council for Exceptional Children (Jefferson Plaza Suite 900, 1411 South Jefferson Davis Highway, Arlington, Virginia 22202), 1971. 142 p. $3.25. An examination of the major governmental issues in the education of the handicapped, administrative responsibility, and services. Each chapter, dealing with a separate issue, is divided into three sections: the background, the status, and recommendations. A final chapter presents a proposed model law for the education of the handicapped.

Digest of State and Federal Laws—Education of Handicapped Children. Council for Exceptional Children (see address above), 1971. 250p. $7.50. Compiled by the CEC Government Relations Unit, headed by Fred Weintraub.

The Far East Region Office of the American Foundation for Overseas Blind publishes a news bulletin periodically describing its activities in Asia and Oceania. Maj. D. R. Bridges is the regional director; Dr. H. Groth, bulletin editor. Distributed free on request. AFOB/FERO, P.O. Box 2285, Kuala Lumpur, Malaysia.

News in Brief



■ William H. Diehl, 41, vocational rehabilitation supervisor in the Wilkes-Barre District Office, Pennsylvania Bureau of the Visually and Physically Handicapped, died suddenly on November 24, 1971, from a coronary infarction. Mr. Diehl had been with the bureau for 15 years, two years in the Pittsburgh District office and 13 years in Wilkes-Barre. He was an active member of the American Council of the Blind and the American Association of Workers for the Blind.

■ Dr. Alfred J. Leonard, director of the Blindness Mobility Research Unit, Department of Psychology, University of Nottingham, England, died suddenly on December 9, 1971. According to Dr. J. D. Armstrong, one of Dr. Leonard's colleagues, his program of research will be continued.

■ Beginning January 1, 1972, the economic circumstances of families became a factor in the amount of payment of college tuition made by the State of New York on behalf of blind students, according to an announcement of the State Department of Social Services' Commission for the Visually Handicapped. The first $550 of tuition will be paid regardless of family circumstances, but income and other resources are now being considered for additional tuition. Provision of funds for board and other expenses was already based on family need.

■ On January 3, 1972, California Governor Ronald Reagan announced that the state-operated California Industries for the Blind and the Opportunity Work Center programs had been transferred to non-profit private corporations. In making the announcement, the governor said "the transfer of these workshops to private operation is a prime example of functions which can best be performed by the private sector instead of by government."

Six workshops operated by the California State Department of Rehabilitation are involved. Five were transferred to California Industries for the Blind, Inc., a private non-profit organization, and one to Goodwill Industries of Santa Clara County, Inc. The action had the approval of the major blind organizations in the state.

Under the transfer, all plants of the California Industries for the Blind are operated by the California Industries for the Blind, Inc. The organization has also absorbed the workers of the Opportunity Work Centers in Berkeley and Los Angeles. The Opportunity Work Center in San Jose is being closed with its workers being transferred to Goodwill Industries of Santa Clara County, Inc., in San Jose. The Goodwill organization will establish an expanded program of services for the blind. The Department of Rehabilitation will monitor the operation of the workshops for five years and report annually to the legislature.

The California Industries for the Blind, Inc., has its headquarters at 840 Santee Street, Los Angeles. President of the corporation is James C. Gibson, formerly the administrator of Industrial Rehabilitation Services in the California State Department of Rehabilitation. Chairman of the board of directors is Anthony G. Mannino, president of the National Federation of the Blind in California. Other board members include Catherine Skivers, president of the Associated Blind of California, Inc., and one worker from each workshop.

■ On January 9, 1972, New York City AM radio station WHN inaugurated "Out of Sight," a weekly half-hour program focused on the employment, rehabilitation, and mobility of blind persons. The moderator is Al Sperber. Air time is Sunday mornings at eight o'clock. Guests have included David Scott Blackhall, moderator of "In Touch," the BBC radio program for blind persons; Judge Reese H. Robrahn of the American Council of the Blind; and Eunice Firito, coordinator of the New York City Mayor's Advisory Committee on the Handicapped.

■ The American Blind Lawyers Association, a part of the American Council of the Blind, has established: a referral system to assist blind persons in obtaining preliminary advice on legal questions; a Board of Editors for the purpose of publishing a quarterly law journal on cassettes for blind lawyers, judges, teachers, and students; and a Student Advisory Committee to assist blind students preparing or desiring to enter the law profession. Plans are currently being made to establish a law information center of taped material in cooperation with the Oklahoma Library for the Blind and Physically Handicapped. Further information is available from the president of the Association, Judge John Van Landingham, 5800 North 19th Avenue, Phoenix, Arizona 85015.

■ According to a news item in the *Braille Monitor* (January 1972), "The California State Assembly approved by a vote of 49-0 a bill to require braille markings on floor buttons in new elevators installed in public buildings."

■ An experiment in teaching the use of the Tactile Vision Substitution System, an artificial vision system using a television camera, electronic commutator, and an array of 400 plastic-tipped vibrators placed against the back of the user, has been initiated at the Overbrook School for the Blind, Philadelphia. The system was developed by Paul Bach-y-Rita, Ph.D., and Carter C. Collins, Ph.D., of the University of the Pacific, Stockton, California. The Overbrook experiment is being conducted by Mary Ann Sullivan, Ph.D., of Beaver College, Glenside, Pennsylvania. Overbrook instructors Sue Bezdek, Roseanne Halpern, and Carolyn Imamoto are assisting in the training of eight primary and junior high school students in the use of the system.

■ The Association for the Blind of Rochester and Monroe County, Inc. (439 Monroe Avenue, Rochester, New York 14607) has announced the availability of the BD-3 Braille Terminal, a device for converting the output of computer consoles, programming terminals, CAI time sharing, AP and UPI news services, stock market ticker tape, Western Union/TWX, etc., into braille. Mounted in a briefcase and weighing 15 pounds, the unit has a data rate of 10 characters per second (15 cps is optional) in TTY Interface and EIA Interface modes. Price: $1,850; delivery in 45 days.

■ The new address of the Atlanta regional office of the American Foundation for the Blind is Equitable Building, Room 213, 100 Peachtree Street, Atlanta, Georgia 30303. The telephone number remains the same: (404) 525-2303.

Appointments

■ North Carolina Commission for the Blind: **Lawrence B. Holt, M.D.,** Winston-Salem, chairman.

■ Tennessee State Services for the Blind: **Mrs. Elaine Parker,** director.

■ Kansas State School for the Visually Handicapped: **Burton J. Lewis,** superintendent.

■ Arkansas State University, Jonesboro: **Robert Ohlsen,** chairman, Department of Special Education.

■ American Foundation for the Blind, New York City: **Louis H. Goldish,** director, Sensory Aids Analysis and Development Program.

Awards

■ Research to Prevent Blindness Trustees' Award: **Drs. David H. Hubel** and **Torsten N. Wiesel,** both professors of neurobiology, Harvard University Medical School.

■ American Public Welfare Association, W. S. Terry, Jr. Memorial Merit Award: **Norman V. Lourie,** executive deputy secretary, Pennsylvania State Department of Public Welfare, and board member, National Accreditation Council for Agencies Serving the Blind and Visually Handicapped.

■ National Center for Voluntary Action, 1971 National Volunteer Awards Citationists: **Mrs. Jean Scott Neal,** Tarzana, California (for her creation of picture books for blind children using raised line drawings) and her publisher, **Twin Vision Publishing Division,** American Brotherhood for the Blind, also in Tarzana; **Mrs. Jean Niekrenz,** Centralia, Illinois (a blind volunteer who works with mentally handicapped children); **Donald Berg,** East Orange, New Jersey (a blind college student who aids other handicapped students); **SERVE,** Community Service Society of New York (a program which uses elderly volunteers, including the aged blind); **Miss Annie Bostian,** Salisbury, North Carolina (a 78-year-old legally blind Red Cross volunteer who has donated more than 1300 hours of service); **Mrs. Edythe Marty,** Seattle, Washington, coordinator of the Blind University Students Reading Service.

Coming Events

April 10-12 Regional Workshop for Rehabilitation Personnel Working With Visually Impaired Mentally Retarded Clients, Arkansas Enterprises for the Blind, Little Rock.

April 11-14 American Public Welfare Association, Southwest Regional Conference, Oklahoma City.

April 14-15 Association for Education of the Visually Handicapped, Midwest Regional Conference, De Kalb, Illinois.

April 17-21 European Society of Ophthalmology, Fourth Congress, Budapest, Hungary.

April 24-25 Catholic Guild for All the Blind, Conference on "Aging and Blindness: Doubts and Promises," Newton, Massachusetts.

April 24-28 Association for Research in Vision and Ophthalmology, Spring Meeting, Sarasota, Florida.

May 7-10 American Public Welfare Association, Central States Regional Conference, St. Louis.

May 24-27 American Public Welfare Association, Mountain States Regional Conference, Denver.

May 26-27 National Task Force on Geriatric Blindness, Annual Meeting (a Pre-Forum Session of the National Conference on Social Welfare Annual Forum), Chicago.

May 28-June 2 National Conference on Social Welfare, 99th Annual Forum, Chicago.

May 29-31 American Ophthalmological Society, 108th Annual Meeting, Hot Springs, Virginia.

June 4-8 Special Libraries Association, Boston.

June 11-15 Medical Libraries Association, San Diego, California.

June 22-25 Optical Manufacturers Association, Optical Fair, St. Louis.

June 25-29 Association for Education of the Visually Handicapped, 51st Biennial Conference, Miami Beach.

June 29-July 1 Lions International Convention, Mexico City.

July 2-7 International Association of Gerontology, Ninth International Congress, Kiev, U.S.S.R.

July 2-7 National Federation of the Blind, National Convention, Chicago.

July 26-August 2 International Council of Educators of Blind Youth, Fifth Quinquennial Conference, Madrid, Spain.

August 13-19 International Council on Social Welfare, 16th International Conference, The Hague, Netherlands.

August 27-September 1 International Society for Rehabilitation of the Disabled, 12th World Congress, Sydney, Australia.

September 5-8 American Public Welfare Association, Northeast Regional Conference, San Juan, Puerto Rico.

September 11-13 Gerontology Around the World, 25th Annual Conference on Aging, University of Michigan, Ann Arbor.

September 19-22 American Public Welfare Association, Southeast Regional Conference, Biloxi, Mississippi.

September 24-28 American Academy of Ophthalmology and Otolaryngology, 77th Annual Meeting, Dallas.

October 1-7 Employ the Handicapped Week.

October 22-25 American Public Welfare Association, Western Regional Conference, Phoenix.

Selected Reprints From the New Outlook

Aging and Blindness: A Public Symposium (six articles), 19 pages, 30 cents

The Blind in the Age of Technology: A Public Discussion, 18 pages, 30 cents

Child Rearing by Blind Parents (three articles, 19 pages, 30 cents

The Current Status of Services for Deaf-Blind Persons (Dantona and Salmon), six pages, 15 cents

Time, Money and Students With Visual Limitations (Leavitt), five pages, 15 cents

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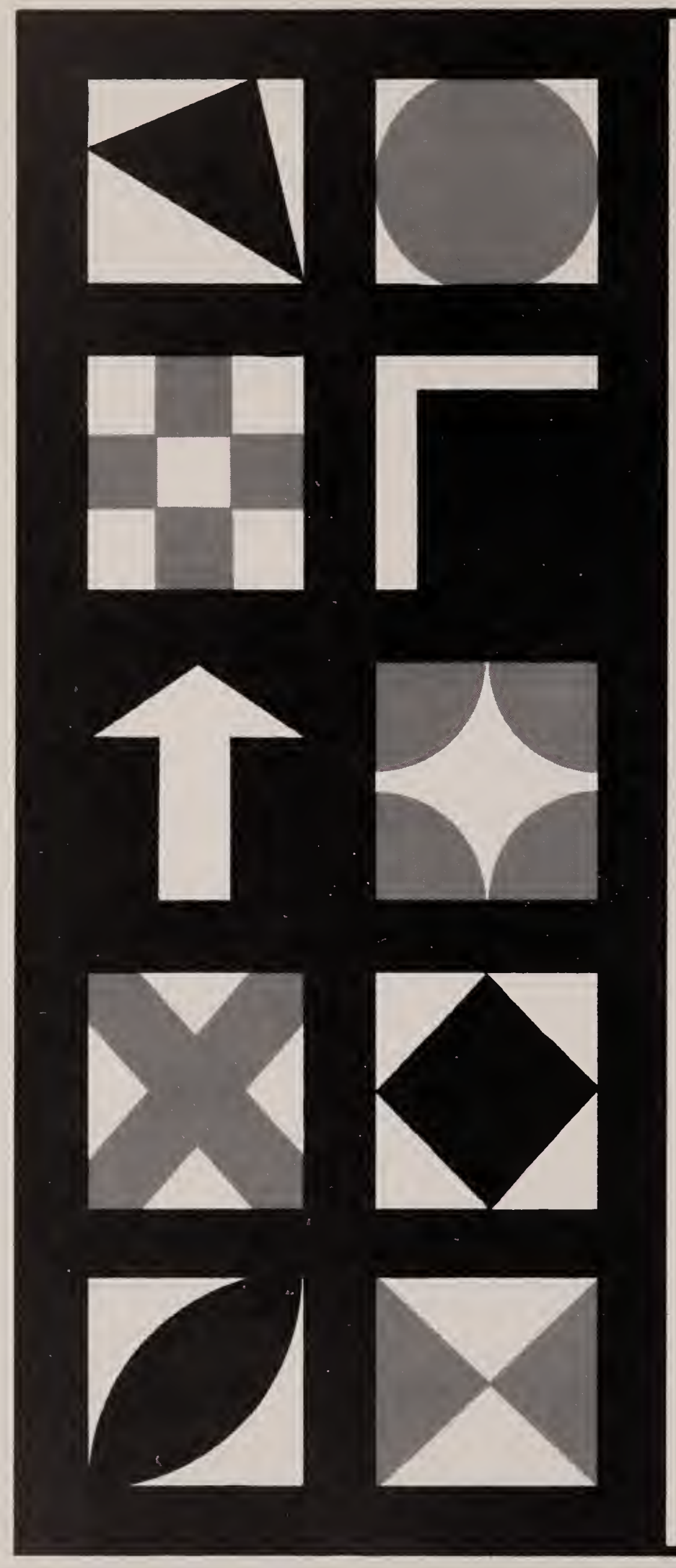
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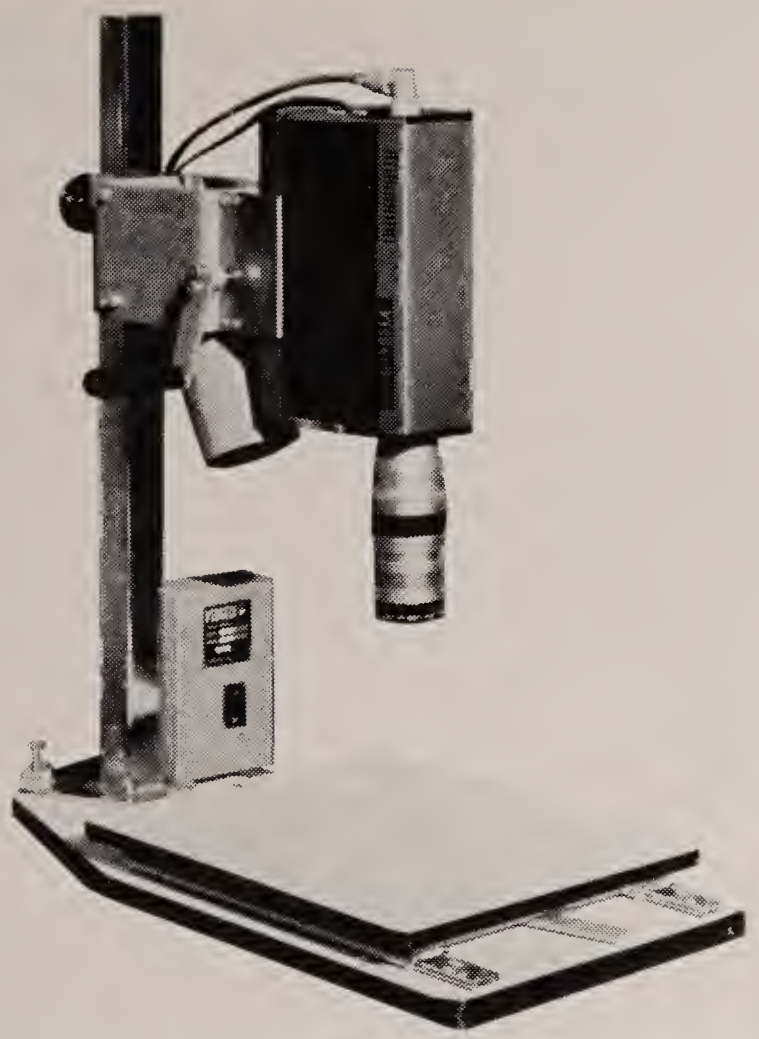
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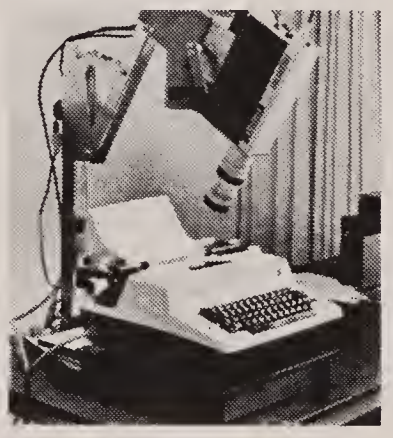


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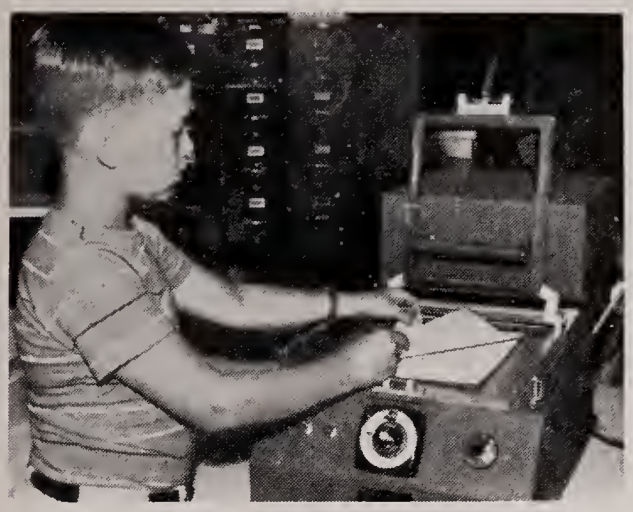
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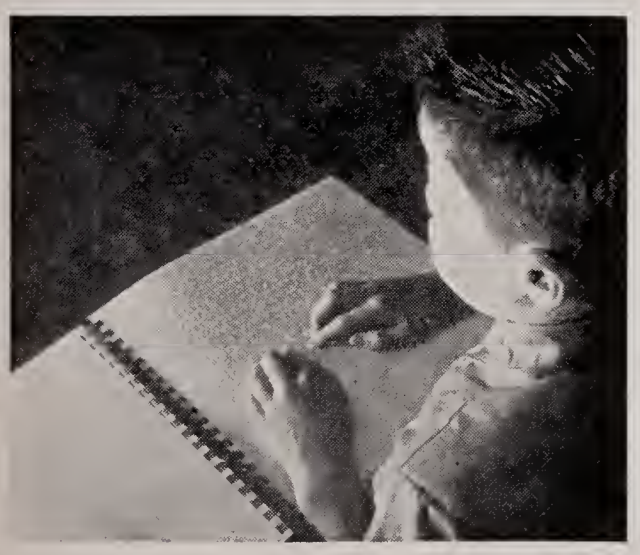


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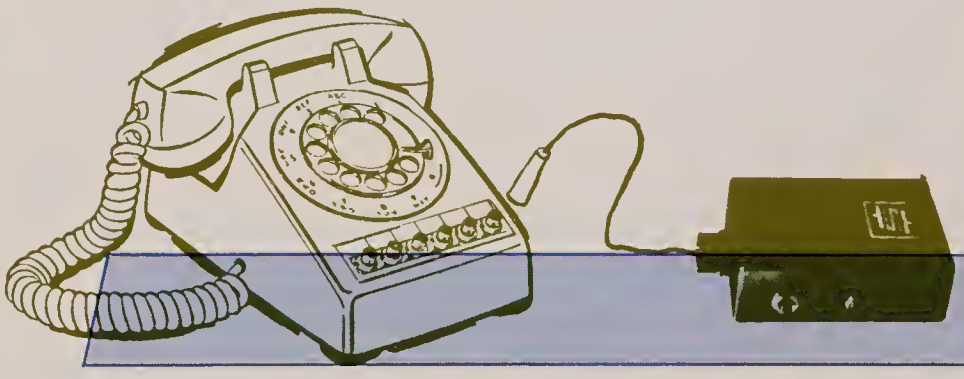
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Psychological Factors in Orientation and Mobility Training

PAUL J. SCHULZ, M.A.

Mr. Schulz is a consulting psychologist and counselor with the Braille Institute of America, Inc., Los Angeles.

The emotional interaction between the mobility instructor and the student is an essential element in the successful outcome of mobility training. The teaching process does not consist merely of the transfer of information from the instructor to the student. Certainly the technical aspects of mobility training are the primary concern of the instructor, but the interplay of personal factors also can and does affect the outcome of instruction. As in all relationships between individuals, the positive and negative feelings, personality characteristics, beliefs, and attitudes of the instructor and the student may either interfere with or facilitate their interaction.

Transference-like Situations

☐ Of particular importance are the positive and negative feelings that are similar to those known in counseling or psychotherapy as transference and counter-transference. In simple terms, transference is the reaction of the patient to the therapist based on feelings which originate in his past close relationships with other persons. The feelings or perceptions may be positive or negative, but they will, in some way, affect the therapeutic relationship. Counter-transference is a comparable feeling on the part of the therapist toward the patient.

Although, in a strict sense, the instructor-student relationship is not equivalent to that of the therapist and patient, it does include many of the same elements. The therapist deals primarily with the feelings, while the mobility instructor and student are concerned with the transmitting and acquisition of knowledge and a particular skill. Yet, because the process of mobility instruction also assists the blind person in developing self-confidence and a renewed self-image as an adequate individual, it is similar to the therapeutic relationship.

Instructor as an authority figure

The quality of the relationship, which is often a close one, will tend to arouse attitudes and feelings toward the instructor, such as resistance to the pressure of the instructor or dependence on him. In other words, by virtue of his position in the relationship, the instructor may be perceived as an authority figure. The student's attitude toward such figures and his perception of the instructor will therefore influence his reactions during instruction. In addition, the frequency of the contact between them will add to the intensity of these feelings.

The Problem of Dependence

☐ These considerations are of particular importance when the relationship is between a professional and a person who is attempting to make an adjustment to the loss of sight. Such a person, during the initial stages of his blindness or severe visual impairment, is, of course, necessarily dependent. He may exploit this dependence or he may resent it; and his reactions may become focussed on the person with whom he has frequent contact and who is in a helping position.

Instructor's reactions

Conversely, the mobility instructor may react negatively or positively to the feelings of the student. If the instructor resents the wishes of the student to exploit his dependent status, it will adversely affect the instructor's ability to teach. Similarly, if the resistance of the student irritates him, he may not be completely objective in his treatment of the student during the lesson.

The Benefits of a Deeper Understanding

☐ If the instructor can understand his own motivation or the basis for his reaction to a particular student, he will be better able to deal with the feelings. If he understands the feelings of the student, he can be more objective in his work with him. Even if understanding is not possible, however, the awareness of his feelings may sometimes be sufficient; that is, if he is sensitive to his own feelings as well as to the feelings of his student, he can often control his reactions.

Improved evaluations

A further benefit of such an approach is that the instructor can better evaluate the progress of his student. A student who is making little or no progress may be perfectly capable and the instructor may be applying all the appropriate principles and utilizing his technical knowledge to the fullest. If there is difficulty then, it may actually be related to the emotional interaction between them. Once he has determined this, the instructor can either use an alternative approach with the student or, if necessary, turn him over to another instructor. In either case, he facilitates the progress of the student.

Informal Discussions With Instructors

☐ As part of an in-service training program at the Braille Institute of America in Los Angeles, a group of orientation and mobility instructors met with this writer for an informal discussion session. Each of these men and women was asked to present one or more questions concerning problems with students. Since our purpose was to explore the emotional aspects of the student-teacher relationship, we attempted to avoid technical material relating to mobility instruction. Instead, we concentrated on the feelings and attitudes of the instructors as well as on what they had been able to perceive of the feelings of the students toward them. The analysis of each question is here presented as a straight-forward response, even though the format of the meeting was of a more general nature, including discussion, suggestions, and comments from the various participants.

Interference Produces Frustration

☐ *I seem to have an unusually intense negative reaction to sighted people who interfere with my orientation and mobility lessons. Why?*

The situation that this instructor described usually involves a lesson in which the student is not aware of the instructor's presence. What often occurs is that the student is waiting to make a street crossing and some sighted passer-by first attempts to help the student, then notices the instructor, assumes that he has some connection with the student, and informs the student of the instructor's presence. When such a situation developed for this instructor, his anger would gradually increase, apparently as a result of the frustration he experienced when he found himself unable to cope with the situation.

Being prepared and direct action

While a number of practical solutions to this problem are possible

(motioning to the person to move sufficiently far away from the student so that an explanation can be offered, having a note prepared with a brief explanation which could be handed to the person, etc.), the important point is to deal reasonably and calmly with the situation before the frustration and anger it produces interfere with its resolution. In this case, direct action is essential for another reason. If the instructor is unable to resolve the problem, the anger might be displaced onto the student. The instructor can then no longer be objective in evaluating the student for the remainder of the lesson; his overall effectiveness as an instructor is impaired; and ultimately the relationship with the student could be weakened.

Discontinuing a Student

☐ *How do you discontinue a student who is highly motivated to complete orientation and mobility training, but who is mentally unable to do so?*

This instructor obviously had mixed feelings about the situation: he wanted to help the student but felt that he could not; despite his evaluation of the student, he did not wish to have the disagreeable and difficult task of informing the student of his limitations.

First of all, it is important to determine if such an evaluation is objective, to find out whether or not the instructor has negative feelings toward the student by, for example, having another instructor provide an independent evaluation. In this case, the other instructor concurred with the original opinion.

Overcoming a difficult problem

The major problem for the instructor, then, was his unwillingness to disappoint the student. He was sensitive to the feelings of the student, but in considering the student's needs and problems, it is evident that it would be more frustrating for him to continue with instruction than to stop. It is far kinder to help the student to deal with his limitations and to accept a more restricted goal than to subject him to the experience of constant failure. The instructor was helped to realize that this course of action was a more constructive and more realistic one.

Lack of Carry-Over

☐ *What can I do about a student who performs well on a lesson but who, when observed without his knowledge, does not use the proper techniques?*

The apparent lack of carry-over from lessons to independent travel (a most frustrating situation, as this instructor also indicated) can be interpreted in a wide variety of ways. The instructor might interpret it personally, as a failure in his ability as an instructor. This in turn produces a feeling of inadequacy and decreases the objectivity of the instructor's evaluations of the student. On the other hand, the instructor might be contributing to the problem by providing too much support during the lessons and thus preventing the student from being adequately prepared to perform when he is off the lesson. In both instances, the attitude of the instructor toward the student and his evaluation of the student's potential for learning should be closely examined.

Negative feelings

If, however, it is found that the instructor is not the direct source of the difficulty, then the possibility that the student may have negative feelings about mobility instruction should be considered. Although much can be learned from the close observation of a student's actions

and comments, a direct approach is often much more productive. Naturally, such questions as "How do you feel about me as an instructor?" or "Do you like mobility training?" will often only result in evasions or a meaningless "Yes" or "No." On the other hand, asking "How do you feel about the way I'm teaching you?" or "What do you think or feel about mobility training now that you've been in it for a while?" might very well uncover positive or negative attitudes that are important for the instructor to know about.

Finally, the problem of insufficient carry-over may involve the student's increased use of residual vision. That is, certain techniques that have been taught are not necessary because the student is able to use his remaining vision instead. When this is suspected, the technical evaluation process that is a normal part of a mobility instruction program should be brought into play.

Preventing Overprotectiveness

☐ *How do I keep from developing an overprotective attitude toward my students?*

This question implies that the instructor feels a potential for overprotective behavior toward his students. He knows that such behavior is detrimental and wishes to prevent himself from giving unnecessary help. On the other hand, this question may only be an overstatement of a simple wish to nurture. In fact, he may never demonstrate any serious degree of overprotection in working with mobility students.

Reaction formation

When an instructor consistently provides help that a student does not need, however, his behavior may be a function of reaction formation. In other words, he has an unconscious wish to destroy a helpless object and reacts to this unacceptable desire by providing more help than the person actually needs. Since the unacceptable wish is unconscious, the person will usually deny that he is being overprotective.

Because this instructor was able to admit a potential for overprotection, it is unlikely that reaction formation is a factor. Furthermore, his ability to verbalize this potential is a good step toward a solution.

When the possibility of overprotectiveness exists, it is helpful to re-evaluate the student's ability and the instructor's goals for him, usually in consultation with another mobility instructor. If overprotective behavior is discovered, the instructor should obtain professional help to work through the feelings, especially if there is also evidence of reaction formation.

In either case, an instructor who is working through his feelings should perhaps work only with students who do not appear to be totally helpless. For example, he could work with partially sighted students.

Avoiding Over-Dependence

☐ *How can I prevent a student from developing feelings toward me that will lead to his fearing to travel when he is off the lesson?*

It must be realized that the quite understandable and temporary dependence of a newly blinded person upon the sighted instructor may develop into an unhealthy over-dependence as a result of some personality trait or from extreme anxiety. Once the instructor realizes that a particular student is a dependent or anxious person, he can concentrate on minimizing the negative effects of the security that he necessarily

provides. He can work to alleviate the anxiety while insuring that his support is realistic. In other words, the instructor should help the student to understand the value of traveling skills in permitting safe travel and discuss the problem with him, encouraging him to verbalize and deal with his feelings. If this approach does not work and if it is recognized that such fears are not a consequence of the student-instructor relationship, the best course of action would seem to be to refer the student for counseling or psychotherapy.

Severing a Strong Attachment

☐ *If a student becomes overly attached to and dependent on me, how can I best remedy the situation?*

It is, of course, better to deal with this problem in its early stages—before a strong attachment has been formed. If the student has become unusually dependent before the instructor becomes aware of it, the situation can still be remedied and without a need for acting precipitously. The instructor's efforts should be directed toward a gradual reduction of the dependent status. While it exists, however, he can use it to the advantage of the student. This willingness to be dependent on the instructor usually indicates positive feelings. Knowing that these feelings exist, he can encourage the student to develop skills leading to independence. He can also help the student to develop motivation since the student wishes to please him.

The ultimate goal, of course, should always be the independent functioning of the student. Every consideration of the instructor should be directed toward this goal. For this reason, if all his efforts to sever the dependent relationship fail, he should refer the student for counseling or psychotherapy.

Setting Reasonable Goals

☐ *During instructor training, perfection in cane techniques is stressed. How can the instructor best deal with the reaction he has toward a student who cannot or will not perform in the prescribed manner?*

In this question, the instructor is referring to a reaction he had toward a student but is not specifying what it was. In response to further questioning, he indicated that his reaction was one of extreme irritation. The fact that the instructor reacted in this manner suggests that he had assumed that the student would not, rather than could not, perform. In other words, he felt that the student was resisting his efforts to help him achieve this high standard of perfection. If he had assumed that the student was incapable of performing, he would have reacted differently.

Relating instructor's training to his expectations

During the discussion, this instructor also admitted that he had resented the stress on perfection in cane technique during his own training period. Now he saw that in expecting perfection of his students without regard for their ability to learn quickly, he had actually been displacing his resentment onto the students. Prior to the discussion, he had not been aware of the relationship between his feelings during training and his expectations of the students.

In a sense he had solved the problem once he became aware of the way he was expressing his feelings. The discussion, however, also helped him to take a more realistic approach to the problem. The group dis-

cussed perfection as a goal that need not be achieved overnight. They also considered it in terms of students' abilities and limitations.

Dealing With Fear and Anxiety

☐ *During training, the orientation and mobility instructor is required to spend many hours under the blindfold learning to travel with the cane. If he has certain fears himself when traveling under these conditions, this may affect his relationship with a student who has the same fears. How may we best deal with this kind of psychological reaction?*

Undoubtedly, many persons experience anxiety when traveling without sight, whether the condition is temporary or permanent. The presence of anxiety varies in degree from one individual to another. Some may experience tremendous and incapacitating fear, while others experience only minimal anxiety. Sometimes severe anxiety can impede the progress of learning, but in most cases, the effects are not so pronounced. In fact, a minimal degree of anxiety may even facilitate the learning process: as a protective or defensive reaction it makes the student more sensitive to the various stimuli in his environment.

As this instructor phrased the question, it seems evident that he was projecting his feelings onto the student. He automatically assumed that each student experienced fear comparable to his own.

Projecting one's own fears

Such projection, particularly when the instructor is unaware of it, can seriously interfere with his ability to evaluate events that occur during the process of teaching. The student may, in fact, be so anxious that he makes many mistakes on a lesson. If so, there should be other cues besides the feelings of the instructor. If these cues are not evident, then the mistakes of the student could be attributable to other factors.

Although this instructor stated that he experienced considerable anxiety while training under a blindfold, it did not interfere with his ability to travel or learn. According to his supervisor, he had been able to function quite efficiently. This knowledge helped him to consider the possible anxiety of his students more objectively.

Many other problems could be discussed

Certainly this discussion of the psychological factors in orientation and mobility does not exhaust the list of possible problems. The relationship between instructors and students is a complex one and there are many more situations and reactions that can and do occur.

Conclusions

☐ What the discussion does suggest, however, is that the area of instructor-student relationships requires further consideration. It can be an interesting and useful part of the instructor's work and can help him to become more effective as an instructor. In addition, the consideration of the psychological aspects of the teaching process should provide a deeper understanding of those cases in which the student makes only minimal progress. For these reasons, it is imperative that the instructor not overlook this facet of the process. The emotional interaction between instructor and student will have its effect whether it is controlled or not. If considered and used properly, therefore, this interaction can greatly contribute to the independent functioning of the blind mobility student.

Visually Handicapped Children Who Function on a Retarded Level: The Frances Blend School, Los Angeles

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Editor's Note: The following dual article is based on presentations originally given at the Western Regional Conference on the Visually Handicapped Child Who Functions on a Retarded Level, sponsored by the American Foundation for the Blind and held in San Francisco on June 10-12, 1971. The photographs and captions are taken from a slide show and commentary presented by Mrs. Terry. The description of the programs is taken from a talk given by Mr. Shaffner immediately after Mrs. Terry's presentation. Both authors are teachers at the Frances Blend School.



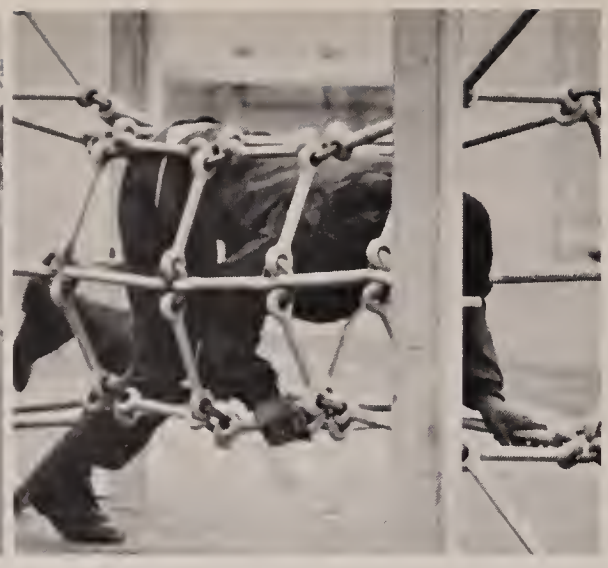


The children I am working with have been largely deprived of the motor experiences so necessary to them. The combination of visual impairment, other handicaps, and negative social influences have played havoc with their growth and development. Consequently, when they start school they are only physically able to tolerate sitting still for perhaps one hour a day, two days a week.

The Frances Blend School, a part of the Los Angeles Public School System, has programs designed especially for visually handicapped children (from three to 18 years of age) who function on a retarded level. Although it has many programs, the school has only one goal for all of the children it serves: to give each child the means of finding and accepting himself, of caring for himself, and of handling his problems independently.

To achieve this goal, each child has a sequentially developed, individual curriculum. Such an approach requires that the teacher carefully evaluate each student's needs and determine how these are to be met. As the child progresses, he must be constantly reevaluated and the various items in his curriculum weighed; then, as necessary, items are changed, expanded, emphasized, recast, or deleted. The planning must be systematic or else the child is confronted by a hodgepodge of learning situations. As the child learns and progresses, the teacher will get to know him better, be able to





This eight-year-old boy is totally blind and when he first came to school, he would not allow his mother to leave. He was not toilet trained; he could not feed himself; his speech consisted largely of verbalization; and he spoke of himself in the third person. He has made a great deal of progress at the school.





After each child has explored the physical education room and become oriented to its equipment, he learns to sit down by the mat and await his turn. Basic movement patterns are taught and a variety of exercises are used to encourage the following of simple directions and the development of new concepts.







chart his progress more accurately, and alter the educational situation in the most suitable way.

To accommodate the many and varied needs of the children, large classrooms are provided. The desks in each are arranged around the perimeter to allow for a large open space in the middle of the room. Having this open area allows the children room for working and playing together, for construction and large projects, and for all kinds of programmed physical activity, including a number of specific exercises designed to help them develop a good self image, body and spatial orientation, coordination, muscle tone, and good posture and carriage free from undesirable mannerisms. Such physical activity also seems to have a positive effect on the children's studying and on other areas of learning, for example, walking and taking care of their own needs.

Quieter activities are carried on at each child's desk, at a large round table in the front of the room, or at a work table. While a child is at his desk, the other children are not permitted to disturb him and he must in turn be quiet and not tease or disturb others.





The little girl pictured above has been able to accomplish much more than had been anticipated at first. She moves slowly and very often reluctantly; here she is carrying out a direct command at her own pace.

When the girl pictured below came to our school last year, she walked on crutches and would just sit and repeat, "I know how to spell people, P-E-O-P-L-E, people." She would speak in a gruff manner and if you asked her for her name she would reply, "It's none of your business." Today she comes to school without her crutches. In this picture she is shown standing at a special supportive table used in helping her to strengthen both her legs and her fingers.



Since many of these children have trouble relating to others verbally, daily sharing activities are conducted at the round table and each child must participate at some time.

One of the primary goals of instruction is the improvement of the child's ability to relate to others so that group instruction is eventually possible, at least to some extent. Usually this means that two or three children are brought together for remedial instruction and for additional practice in working together.

A recent innovation at the school is the Home Management Program in which older youngsters (12 to 14 years old) are taught the skills and responsibilities necessary for them to take an active part in the care of their home. The ultimate goal is to make them self-sufficient in maintaining the home and in caring for themselves wherever they live. One of the activities of those in this group was the planting of individual garden plots beside the school for growing vegetables. When the crops were ready, the children harvested, prepared, and sampled all the foods.

A program related to home management is the one for the development of prevocational skills. Older children not only have the opportunity to learn and practice such skills as folding paper and placing it in an envelope, sealing envelopes, sorting, counting out specific quantities of items, putting material into bags and sealing them, placing rubber bands around specific quantities of items, and putting lids on bottles, but they are also performing a







The little boy pictured above (left) enjoyed playing with the toy telephone and eventually learned to dial his own home telephone number. He then was allowed to call his mother on the school telephone. The children become somewhat familiar with coins as a result of their bringing milk and lunch money to school. Here (above, center), with the use of a toy cash register, categorization can be taught in a meaningful way and practice provided in finger dexterity.

Projects involving more than one child, with practice in working together and sharing the problems and rewards of overcoming a challenge, are stressed (see above right and below left).

Almost all of these children can now sit in a group for about 15 or 20 minutes. In the picture below (right) they are shown getting ready to take part in an activity song. Many children have trouble pointing their index finger; we have found, however, that if they first make a fist, raising the pointing finger is much easier. Sometimes we have to help them to make a fist and lift up the finger for them.

valuable service to the school system. These activities are not "busy work"; they are brought to the school from other departments thus freeing a school employee for other duties.

Children who are successful in the pre-vocational training and who are at least 16 years old may have the opportunity to work for pay in an off-campus workshop. At this facility, the youngsters continue to receive instruction and are able to learn in a realistic way about the meaning and importance of time cards, punctuality, personal neatness, work routines, and pay checks.





The Effect of Circumstantial Rejection on Infant Behavior

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Bizarre, stereotyped, self-stimulating motor activities (such as rocking, swaying, thrusting fingers into the eyes) have long been associated with blind children; these acts have even been named "blindisms," even though others, such as emotionally disturbed or mentally deficient children, also indulge in these acts. It is generally stated that the lack of stimulation from the external world furthers the blind child's concentration on the self and encourages this exercise of self-stimulation. Since the impressions received by the blind child and the outlets for his activity are limited, it has been considered almost normal for the young child to resort to such self-stimulating behavior in order to maintain a certain level of personal involvement. As the child develops interest in and is able to take part in more diversified activities, however, the bizarre behavior will be replaced with a higher proportion of socially approved patterns.

Exploratory Behavior

☐ Blindisms, however, may present a more formidable problem than has been considered in the past. These stereotyped behaviors may be acts which substitute for, or interfere with, the drive to explore the environment. This exploratory behavior is essential in that it is the key to mastery or control of the environment—a mastery which appears to be lacking in many of the blind.

Erikson's model of development

Erikson[8] presents three stages in the development of the child, each of which, by means of play, must be mastered if a sense of reality and mastery of the environment is to be achieved. The first stage begins with, or centers on, the child's own body. It consists of the exploration by repetition of sensual perceptions, kinesthetic sensations, vocalizations, and similar phenomena. In the next stage, the child plays with available persons and things, primarily his mother's body. This interplay establishes the ego's "first orientation in the 'world.'" (p. 194.) The child projects the frustration of his traumatic experiences on the small world of manageable toys. If he can successfully control these objects, he is ready to pass on to the next stage. If, however, mastery is unsuccessful, it leads to fear or disappointment and the child may regress to the first stage. Finally, at nursery-school age, playfulness reaches into the world shared with others. The child then discovers what content can be successfully represented only in the world of toys and things, and what content can be shared with others and forced upon them.

Mother-Infant Relationship

☐ Now it is quite possible that in the first stage of development, as described by Erikson, the blind and sighted infant begin life on equal terms. The explorations of the senses and of the body are not hampered unduly by the lack of vision. Difficulties arise, however, when the child

takes the next step, playing with "available persons and things." While all infants use their mother's body as a plaything, it is possible that the blind child must spend more time on this type of play. The blind child, due to his lack of vision, is less attracted to the other-than-self world and does not as actively seek knowledge of this world. He also requires more time to explore his mother's body, since he must master this part of his world without vision. Vision is not the dominant sense in infants at this age, but it may supplement the other senses and contribute to an earlier cognizance. While this constitutes no insurmountable difficulty for the blind infant at this stage of development, he still cannot be considered as an entity dependent only on himself as the infant-mother relationship exerts a powerful influence over the infant biologically at conception, and psychologically at birth.

Disturbance of the relationship

If this mother-infant relationship is disturbed we can expect variations in the behavior of the mother and of the infant. The most obvious disturbance in this relationship occurs when the mother first realizes that the infant is blind. The adjustment she is able to make seems to depend largely on the mother's psychological make-up, her marital relationships, and her own personal and social adjustments to life.[27] All too often the mother fails to make an adequate adjustment, a failure resulting in the rejection, disguised or overt, of her infant.[7,13,27] This suggests that the mother-infant relationship may, in these cases, be damaged or changed in some way. The damage which occurs is of an on-going nature; the infant, physically lacking the sense of sight, begins and continues to function in the environment as an organism without sight, while the mother, who has not adjusted, continues to operate as an organism with the psychological make-up which prevented the initial adjustment.

Mother's Expectations

☐ There is, however, a more subtle interference in the mother-infant relationship. To establish a normal child-mother interaction it is essential that the newborn baby show a certain behavior pattern. Prechtl[22] states that "it seems important for every mother that her baby show the usual amount of mobility and activity, that he has a normal tonus and that the mother is able to pacify him when he is upset." (p. 53.) Although the blind child (if lack of vision is the only factor involved) essentially follows the same developmental sequence in growth, there is a tendency, because of the lack of visual stimulation by objects in the environment, for the blind child to be less active and less mobile than his counterpart.[11,18] He feels no need to grasp for or crawl toward an object which, making no sound, ceases to exist.[9] Gesell and Amatruda[11] state that "even though the [blind] infant is not wrapped in silence he lives in a world of visual nothingness which threatens to drive him into increasing introversion as he matures." (p. 253.) Burlingham[3] also speaks of "a passive attitude which seems as natural to the blind child as it is his greatest danger." (p. 123.) If the mother is unable to overcome this withdrawal of her blind child, she may blame herself for mishandling the child or feel rejected by the child; either of these situations may result in a rejection of the child by the mother.

The mother's dependency on vision

The blind child adjusts to a world without vision; he approaches the world as an integrated system in spite of deficits and obstacles; he learns and acts as a system not dependent on the visual sense but on the remaining senses. The mother, however, retains her dependency on vision and continues to live in a basically visually-oriented world. It has been suggested that response to visual and auditory stimulation are important for attachment behavior.[24,29] Therefore, while the blind child may make a satisfactory attachment to the mother through his remaining sensory channels, the mother may have greater difficulty in forming a satisfactory attachment without the mutual use of the (to her) dominant visual channel.

Importance of Eye Contact

☐ In Sadako Imamura's study[13] of the influence of child-rearing practices on the behavior of preschool blind children three to six years of age, it was found that mothers of blind children tend to ignore their children's requests for help more than do mothers of sighted children. Imamura interprets this tendency to ignore requests for help as a "disguised expression of rejection." (p. 35.) While this may be so in some cases, there may be an additional explanation for this ignoring behavior.

The blind child must ask

The sighted child very early realizes when he has the mother's attention by establishing eye contact, and may wait until he has his mother's attention before he requests help. The blind child has no way in which to determine when the mother's attention is directed elsewhere and consequently must repeat the request until he has gained her attention. The importance of eye contact in communication is widely accepted: the student avoids eye contact with the teacher if he does not want to be singled out; it is irritating and difficult for some people to carry on a satisfactory conversation with a person wearing dark sunglasses; much of the success of television depends on the eye-to-eye contact of the speaker with the viewing audience.

Eye control and rewards

The sighted child very early learns that even though the mother may be within close range, her attention may be directed elsewhere and smiles or actions had better wait if they are to be rewarded by the mother. The following observation, made by the author on November 25, 1968, illustrates the significance that the seeing child places on visual contact:

Six-month-old sighted child

The father was holding his six-month-old son while wearing a cap with a brim. The mother was watching close by. The child, possessing four sharp teeth, eagerly approached all objects with the intent to bite. At this time he stretched up and with an aggressive, vigorous thrust of the head, bit the brim of the cap with force. The mother and father both responded to this action with laughter. The child, noting the response of the mother and father, repeated the action with the same vigorous, attacking approach—only this time he immediately looked toward the mother. The mother again responded with laughter. The child repeated this action several times, each time with the same aggressive approach, however the teeth no longer bit the brim with force but barely closed upon the cap. Each time the child immediately turned his head to see the mother's response. At this time the mother turned her head away but was called back by the father to watch since the child continued to look expectantly toward the

mother. As soon as the mother turned her head and again looked toward the child, the child turned and bit the brim.

It can be seen here that while the child's first action was based on a physical need due to teething, the subsequent actions were performed for the sake of a social reward and the child, at the age of six months, realized that only when the mother was looking did it pay to perform.

Auditory cues are needed

While it is possible that a blind child may be sensitive to auditory cues and establish contact by this channel, any relationship is a two-way street, and the mother, basically a visually-oriented being, may not be as sensitive to auditory cues, and may find it difficult to establish contact on a non-visual basis. In fact, the mother's natural ability to respond to auditory cues rather than visual cues may very well be an important factor in establishing a satisfactory relationship with her blind child.

Incomplete Mastery of the First Stage

☐ Returning to Erikson's description of the self-world, it is possible to see that while the blind child may need more time to explore his mother's body, he may actually receive less because of a damaged mother-infant relationship. Burlingham[5] believes that it is necessary to teach mothers of blind children to lend their bodies to the child to be played with and to play with their child's body. "This comes natural to the normal mother, but may be absent when a mother is depressed, and disappointed in her child, as the mothers of blind children are." (p. 189.) If this interplay is absent, mastery during the first stage may not be reached and the ego's first orientation in the "world" may be retarded or damaged.

Difficulties in the second stage

Even assuming that the blind child has mastered his own body and explored his mother's body satisfactorily, the next stage presents even more hurdles because the blind child's mastery of the thing-world is initially more difficult. The seeing infant during the first few months of life is capable of responding with head and eye movements to visual and auditory stimulation. By means of these responses he is able to explore objects at a moderate distance before he can approach them through locomotion, and in this way he can establish and maintain contact with his environment.[29] The sighted infant may look and explore, or he may, by turning his head away or shutting his eyes, cause the object to cease to exist as far as he is concerned. In this way, he can achieve control over objects in the very first months of life. The blind infant cannot do this. He cannot, because of his lack of vision, respond or control visual stimulation; and while he can respond to auditory stimulation, he cannot control it. There is no way to avoid or shut out sound at will.

Tactual vs. Visual Exploration

☐ Tactual exploration of an object is also more difficult for the blind child. The seeing child reaches for and attains an object "on sight" between five and six months of age. The seeing child can, at this age, begin to control objects in his environment. The toy that drops from his poorly coordinated hands can be reached for again and explored tactually, mouthed, banged, or dropped. The toy continues to exist for the seeing child as long as he sees it; and as long as he sees it, he may reach for it, and thus control it. The blind child does not attain control

of an object in this way until the end of the first year. When the blind child drops a toy and loses tactual control of it, it ceases to exist for him. He does not, therefore, reach out for a "non-existing object," although he may accidently encounter it again. As far as the blind child is concerned, the object comes and goes at its own discretion and the child is dependent on the random location of the object rather than on his ability to control it.

Controlling objects

That the blind child may be frustrated to a greater degree in his attemps to control the thing-world is reflected in statements by Lowenfeld,[16] Bauman,[2] and Jervis.[14] Land and Vineberg[15] investigated the locus of control in blind children and found that the blind generally did not feel that they, by their own actions, could control their world.

Reactions to Lack of Control

☐ What happens to the child who feels he is unable to control his environment? Erikson[8] refers to the child who finds the thing-world too frightening and returns "into the autosphere, daydreaming, thumbsucking, masturbating." (p. 194.) In *Infants Without Families,* Freud and Burlingham[10] found similar behavior patterns in those seeing infants who had been unable to share bodily pleasures with their mothers.

> Lack of such gratification with consequent increase of auto-erotic activities *diminishes the child's interests in its surroundings:* with excessive thumbsucking, rocking, or masturbating the child creates a comforting world of its own into which it may withdraw and thus become unreachable for outside influence. (p. 99, italics added.)

External stimulation disregarded

When the child retreats to this self-world, external stimulation is disregarded or actively thrust out. "Toys are thrown out or disregarded . . . and the rhythmic movements of the body remain the sole occupation." (p. 182.) The quantity of stimulation does not seem to be as significant as the fact that the child is unable to assimilate the external stimulation that does exist; either he fears it or it is too removed from his state of development to be meaningful.

Parallel Behavior in Other Primates

☐ Similar repetitive movements have been found in laboratory-reared primates. It has been suggested that these movements are made in an attempt to compensate for low levels of environmental stimulation or for restriction of movement. On the other hand, Mason[17] believes that while these nonsocial factors may influence the level of occurrence of repetitive movements, the origin of these movements lies in early social experience. It is suggested by Mason that the general level of environmental stimulation is relatively unimportant in the development of repetitive stereotyped movements in primates. It has been found that animals reared in the laboratory with the mother tend not to rock and sway, whereas those reared apart from the mother almost invariably do, even when the animal is reared in a human household where the general level of stimulation would be extremely high comparatively. Spatial restriction on movement also does not appear to be a primary factor since these movements appear before the animal is capable of moving about in the available space. Mason concluded that "there is convincing evidence that the development of these behaviors is related

Rearing conditions are important

to rearing conditions. Although the specific etiological factors have not yet been demonstrated, the absence of a normal association with the natural mother seems to be an important predisposing condition." (p. 535.) In addition, Mason states that "because stereotyped behaviors become persistent modes of responding, they may *substitute for or interfere with the development of responses which are more adaptive or appropriate, thus indirectly retarding psychological growth.*" (p. 536.)

Rejection of stimulation

Thus, the child with an insecure mother relationship may be afraid to deal directly with the environment and tries to return to the safe world of his own body, rejecting all the other potential sources of stimulation which may surround him. In view of the evidence that many blind children may be involved in a damaged mother-infant relationship (unintentional or otherwise), it is questionable whether or not the blind child concentrates on himself and indulges in acts of stereotyped behavior solely because of his lack of vision and the consequent lack of stimulation from the external world.

Mastery of the environment can only be achieved when the child is aware of the characteristics of the environment, the effects it has on him, and his effects on it. But this environment is constantly changing. How then does the child obtain the knowledge which enables him to achieve this control?

Play and Exploratory Behavior

☐ White[30] explains that in the case of man, where so much has to be learned through experience, we might expect to find a very powerful drive operating to insure progress toward competence; instead we find play and leisurely exploration.

> There is good reason to suppose, however, that a strong drive would be precisely the wrong arrangement to secure a flexible, knowledgeable power of transaction with the environment. Strong drives cause us to learn certain lessons well, but they do not create maximum familiarity with our surroundings. (p. 189.)
>
> It is during the quieter times that
>
> the infant can attend to matters of lesser urgency, exploring the properties of things he does not need to eat, learning to gauge the force of his string-pulling when the only penalty for failure is silence on the part of the attached rattles, and generally accumulating for himself a broad knowledge and a broad skill in dealing with his surroundings. (p. 189.)

Exploration easily inhibited

It can be seen, therefore, that exploratory behavior is necessary for a knowledge of a complex, changing environment. This drive, however, sacrifices its strength and directness of purpose in order to remain flexible. Unlike the hunger drive, for example, which if thwarted ends in death, exploratory behavior may be more easily inhibited in the individual with the result not being immediately apparent. Exploratory behavior, however, reflects the ability of the child to reach out into the unknown. If this unknown is a threat, this searching action is inhibited and more familiar actions may be substituted—blindisms or self-play.

Maternal Attention and Exploratory Behavior

☐ A secure mother-infant relationship seems to be necessary to establish a base from which to explore the environment. Judith Rubenstein[25]

measured the relationship between maternal attentiveness and exploratory behavior. She found that the group of five-month-old infants who received a high level of attentiveness from their mothers, defined by the number of times the mother was observed to look at, touch, hold, or talk to her baby, significantly exceeded the low-attentiveness group in looking at, tactile manipulation of, and vocalizing to a novel stimulus presented alone, and exceeded both low and medium groups in looking at and manipulating novel stimuli in preference to familiar ones. Rubenstein believed this demonstrated the cause and effect relationship between maternal attention and exploratory behavior.

Blind child not aware of being observed

While the mother of a blind child may send forth a high level of attentiveness—looking at, touching, holding, and talking to her child—the blind child *receives* only the touching, holding, and talking, and as a result may actually be in a medium or low level attentiveness group unless the mother makes a definite effort to replace the looking with some one of the other attentiveness behaviors. While this is not difficult, it must be remembered that the mother is still dependent on vision. She may look at her child even more frequently if she is anxious about his well being and "look" frequently to see if he is all right, but the child is not aware of this unilateral contact and to him it does not exist. Thus, the blind child would be placed in the lower stimulus category which would tend to foster a lower level of exploratory behavior.

Being observed is important to sighted child

The importance of the mother-infant attachment in exploratory behavior was pointed out by Walters and Parke.[29] Sighted preschool children, when left alone in a strange room, showed little exploratory behavior; however, if they were accompanied by their mother they moved around the room and played freely with available toys. The authors inferred from this that the sighted child retains a secure base and hence feels more confident to engage in exploratory behavior because he is able to maintain contact with his mother, constantly monitoring her presence through the distance receptors, vision and hearing. In a similar situation, the blind child would be dependent entirely upon one distance receptor, hearing, which by itself may not be as effective as a combination of seeing and hearing. Also, while vision permits constant monitoring if the mother is in sight, hearing requires that the mother produce some sound in order to maintain contact with the child. Hearing contacts are, therefore, intermittent contacts, and would appear to be less effective than vision.

Exploratory Behavior Is Inhibited

☐ There are indications that blind children are more inhibited in their attempts to explore the environment. McAndrew[19] found that

> the blind gladly engage in simple, repetitive activities and that they generally fear venturing into strange territory. . . . They will engage in simple, differentiated tasks for longer periods than the other groups [deaf and normal]; while most of them are too helpless and insecure to attempt an undifferentiated activity. This feeling is exemplified by one blind child's statement: "I only know how to make what you taught me." (p. 376.)

This same quality has been observed by Burlingham.[4]

Individual attention is essential

Left to their own devices, the [blind] children tend to "play safe" by repeating the familiar, such as opening and shutting doors, turning switches on and off, playing with the water faucets, letting water run over their hands, or filling and emptying containers, all of them actions suited to much younger children. Again, like much younger children, they cannot be coaxed away from repetition to constructive progress by a specific game or by offering them a toy; the achievement of this purpose has to rely on their personal attachment to the teaching adult. They do not progress without individual help and are at their best not in the group but alone with the teacher; in an individual person-to-person relationship they function surprisingly well. (p. 198.)

Origins of Succorant Behavior

☐ This basic feeling of insecurity, fear, or feeling of dependence has been noted in Imamura's study[13] of blind children. She found that "the characteristic which most clearly distinguishes the behavior of the blind children from that of the sighted children is succorance [requests for help]." (p. 64.) The simplest and most obvious reason for this kind of behavior would ascribe these requests for help to the physical limitations of the child. "However, actual observation of the behavior of blind children reveals that they make many succorant acts which are not directed toward seeking physical assistance." (p. 24.) Imamura therefore suggests that "blindness in itself cannot adequately explain the strong tendency for succorance exhibited by blind children." (p. 24.) She found a strong similarity between the behavior of blind children and those overprotected children who have dominating mothers as described by Levy. Imamura states that "these similarities behoove us to look upon the maternal treatment of the blind child as a possible explanation of the blind child's . . . marked tendency toward succorance." (p. 28.)

Succorance not limited to blind children

Dependent behavior is not a characteristic limited to blind children alone. Barker and Wright[1] (p. 440) found similar behavior in a study of children disabled by cerebral palsy, congenital heart defect, amyotomin, and spina bifida. It has also been noted[28] among non-disabled children that the "child shows greater dependence, and tends to seek attention and approval from adults more actively when such attention has been limited or denied, than when it has been continuously available." (p. 268.)

Absence of Required Security Base

☐ There is much evidence to suggest that in many instances the infant-mother relationship of the blind child may not be providing the required security base necessary for him to feel free to reach out and explore the expanding environment surrounding him. What can result from this lack of exploratory behavior and of what significance is it?

Exploration as a releasing mechanism

Harlow[12] describes curiosity and exploration as "basic, primate response systems—releasing systems that overcome the immediate infant-mother affectional systems and prepare the infant for a wide new world." (p. 76.) The newborn monkey is born with powerful reflex mechanisms which unite the infant and mother, for example, sucking and clasping..If these reflexes continued with no counteracting force, the infant and mother would show increasingly stronger attachments.

The existence of a similar releasing mechanism in the human infant has been noted by Schaffer.[26]

It soon becomes obvious that right from the beginning the infant is no mere passive being to whom nothing matters but food and warmth. Whatever label will eventually be found most appropriate . . .—stimulus hunger, curiosity, arousal seeking, exploratory drive—it seems likely that this function is one of the most important attributes with which a child comes into the world. (p. 194.)

Affective familiarity with environment

White[30] also expresses a similar thought: "the child appears to be occupied with the agreeable task of developing an affective familiarity with his environment. This involves discovering the effects he can have on the environment and the effects the environment will have on him." (p. 184.)

The Exploration-Security Paradox

☐ From these observations, an interesting paradox is formed. Exploratory behavior is necessary for the releasing of attachment behavior, yet exploratory behavior is dependent on a secure and satisfying attachment of the infant and mother. If the attachment is not secure, the releasing mechanism, exploratory behavior, is not available and the infant remains dependent on an attachment which was not need-fulfilling in the first place. In other words, the more satisfying the attachment, the easier the attachment dissolves. That this is so can be seen by statements previously cited, that is, dependency is greatest in groups wherein the adult-infant relationship is considered faulty.

Affectional bonds

Harlow[12] describes two stages in the development of affectional bonds. During the first stage the mother "provides the nutritional and comfort needs upon which are formed affection and security, and it safeguards its infant until effective danger signals are recognized." (p. 84.) The second stage consists of "the gradual relaxation of these affectional bonds between mother and child." (p. 84.)

The Blind Child's Difficulties

☐ It is possible to see that for the mother of the blind child the first stage may of necessity continue for a longer period of time. The blind child faces more dangers and has greater difficulty in recognizing these dangers. The second stage also presents added difficulty in that more than a relaxation of bonds is involved, and that the mother is an active agent in this stage of development. It has been shown that the exploratory behavior of the child is not in itself strong enough to continue in the face of insecurity or to break the bonds of dependency. It is therefore necessary to look to the mother for some action which may precipitate the relaxation of bonds between the mother and child. This is easily seen as the mother guides her child through various situations increasing in difficulty according to the child's ability. The mother encourages the young child to walk; however, not on the edge of a precipice. The mother of the blind child, for several reasons, may not be as active an agent in releasing the child from the first stage. Chevigny and Braverman[6] suggest this when they discuss the parent-blind child relationship.

Over-protection

All children hit heads and bruise shins, but in the case of a blind child allowing him such encounters seems wrong. He is told, indeed usually forced, to keep out of even such simple encounters with danger as are part of the experience of almost all sighted children. He is made to sit still much of the time, which restricts

his experiences. . . . He is made to feel rejected, unwanted, or he gets an unusual showing of affection which, however, is not always a demonstration of real belief that he will ever amount to anything. (pp. 79-80.)

The Mother's Dilemma

☐ The mother of the blind child is therefore faced with the task of preparing her child for independence in the world while feeling that independence for her child is, if not impossible, at least more difficult. The task is further complicated by the fact that the mother does not really know how to teach this independence to her child who is essentially living in a different dimension. She can, with her sighted children, utilize her own experience and perceptions of reality—for her blind child she cannot. Wills[31] suggests that

Dual role

the mother of the blind child might have to perform two distinct roles: she has on the one hand to establish a good bodily relationship with her blind child through her handling and care, but she also has to provide the right kind of auxiliary ego for him, not in the usual sense of supplying control, but in the sense of giving him meaningful experiences of the world, something that the mother of a sighted child can do automatically on the basis of her own experience. We do not yet know exactly how she can best do this. . . . It may be that if a blind child's mother cannot help him to make this step from her to the world at the right time, it would seem. . . . that this may be in fact a "critical period." (p. 361.)

Social Play

☐ In a similar vein, Morris[20] discusses one special aspect of exploratory behavior, the infant's social play. This play, directed first to the parents and then toward the juvenile peer group, is a "critical step" in the child's development with "far-reaching effects on the later life of the individual." (p. 139.) Lack of satisfactory social play leads to anti-exploratory behavior and, in extreme cases, results in an individual who finds the environment so frightening that he seeks comfort in repetitive stereotypes (p. 142).

Mothering among primates

Harlow[12] studied the effects of real and inanimate mothering on the development of various play patterns in macaque monkeys. It was found that

from early in life onwards the real mothered infants show superiority in social play responses over the surrogate-mothered babies both in terms of the time of appearance of the various play patterns and also in terms of the complexity of play patterns which develop during the first year of infancy. . . . As the monkeys approach the end of the first year of life, the tempo of their play activities increases and they come more and more to incorporate all available objects—animate and inanimate—into a pattern of integrated play. . . . This play is almost non-existent in the surrogate-raised infants. . . . [This finding] demonstrates clearly that the mother plays an important role in the subsequent personal-social development in her infant. (pp. 13-15.)

Social Retardation

☐ It can, thus, be seen that an unsatisfactory parent-child relationship may adversely affect the exploratory or play behavior of the blind child which, in turn, may affect the social development of the child later in life. Although several studies have examined the social adjustment of blind persons, methodological differences make it difficult to draw any

definite conclusions.[23] It is generally agreed, however, that defects of vision are associated with social retardation.[18,29]

Importance of opportunities for learning

The reason for this social retardation is not known. Walters and Parke[30] suggest that the distance receptors (vision and hearing) play an important part in social development. In the absence of the distance receptors such as in blind, deaf, and deaf-blind infants, social interaction may be more difficult to maintain and social development would be curtailed. Sommers[27] believes that the personal and social adjustment difficulties of the blind adolescent are due to social attitudes and conditions surrounding the blind rather than from the disability itself. Norris, Spaulding, and Brodie[21] state that no special problems can be attributed directly to blindness. In the study of the development of the preschool blind child, they found that favorable opportunities for learning (in this case, a secure emotional climate in which the child is allowed freedom to explore) are "more important in determining the child's functioning level than such factors as his degree of blindness, his intelligence as measured by psychological tests, or the social, economic, or educational background of his parents." (p. 65.)

Summary

☐ In summary, mastery of the environment, which appears to be a source of trouble for the blind infant, can only be obtained by spontaneous exploration of the environment. The willingness to explore the environment can only be accomplished if there is a secure mother-infant relationship. The relationship between the blind child and his mother is complex. In addition to identified behavior patterns of rejection of the blind child by the mother, more subtle forms of behavior may, unknowingly on the part of the mother, be interpreted by the child in such a way that the end product is similar to that of rejection. This rejection, or seeming rejection, may result in anti-exploratory behavior (stereotyped rhythms or blindisms) which may be an active regression to the safety of the blind child's own world. This anti-exploratory behavior is, therefore, substituted for, or at least interferes with, the utilization of that behavior which would ordinarily lead to mastery of the environment and a reduction of the fear of the unknown.

In conclusion, a simplistic view of blindisms and of rejection by the mother of a blind child is not conducive to the development of desirable behavior changes. The key to the formulation of a specific plan of action by which the mother of the blind child may more effectively cope with the problems inherent in raising a blind child in a visually oriented world may be found in a depth analysis of mothering patterns.

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Harvard (N.Y.) Agricultural and Rural Group for the Blind

During the last 18 months, John Hordines, athletic director at the New York Institute for the Education of the Blind, Bronx, New York, has been planning and setting up the Harvard Agricultural and Rural Group for the Blind. Located in Harvard, Delaware County, New York, a rural area 140 miles northwest of New York City in the Catskill Mountains, the group plans to conduct experiments in training blind persons in such trades and occupations as cultivating and managing a vegetable garden, growing plants and flowers, cultivating and setting trees and shrubs, raising worms for fishing bait, and others. More than 20 local people have expressed an interest in cooperating with the group.

Training for Rural Blind Persons

☐ Once in operation, Mr. Hordines hopes that the group will be able to offer a broad training and rehabilitation program that many of the estimated 50,000 blind persons who live in rural areas will find especially valuable. He also points out that although the federal government has sponsored a number of research projects in agriculture and related rural work for blind persons in the past, no permanent facility for this kind of training is in operation at present. The Harvard Group, which is presently in the process of becoming incorporated under the laws of the State of New York, plans to change that. To obtain further information or to offer suggestions, write to John Hordines, Director, Harvard Agricultural and Rural Group for the Blind, 212 Pennyfield Avenue, Bronx, New York 10465.

WCWB Executive Committee to Meet in Moscow

Moscow, the capital of the Union of Soviet Socialist Republics, will be the setting this year for a meeting of the Executive Committee of the World Council for the Welfare of the Blind, according to a recent announcement by WCWB President Charles Hedkvist of Stockholm, Sweden. Hosting the group is the All-Russia Society for the Blind. After the official business sessions for the committee from May 21 through May 25, the Society has arranged for several days of entertainment and tours for the committee members.

All-Russia Society for the Blind

☐ According to Boris Zimin, president of the All-Russia Society, the expected 30 to 40 members of the committee, their spouses, and/or guides in the case of those who are themselves blind, will be treated as guests of the Society to rather extensive trips to other states of the Soviet Union. Many of the committee members will be traveling to Moscow from East Berlin after attending an international conference there on the higher education of blind persons sponsored during the preceding week by the German Association of the Blind and Partially Sighted.

Constitutional amendments to be considered

Among the items on a very heavy agenda for the Moscow meeting is consideration of amendments to the WCWB constitution. Unchanged for more than 20 years, the document is believed to be in need of modernization based on the Council's experience in maintaining an international organization, one now grown to a membership of 60 nations.

Helen Keller bequest

Another item of particular interest is the implementation of certain services for deaf-blind persons made possible through a bequest of approximately $26,000 from the late Miss Helen Keller. M. Robert Barnett, executive director of the American Foundation for the Blind and one of the three persons from the United States who are members of the Executive Committee, has been asked to prepare and present recommendations for the use of the Helen Keller Fund.

Of general interest also is that the Executive Committee may be expected at this year's meeting to decide the site for the 1974 quinquennial General Assembly. The Assembly was last held at New Delhi in 1969.

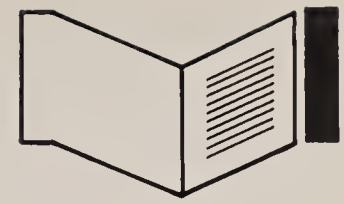
Other members of Committee

Other members of the Executive Committee from North and Central America are: Mrs. Elisa Molina de Stahl of Guatemala, president of the Comite Nacional Pro Ciegos y Sordomudos; Arthur N. Magill of Toronto, Canada, managing director of the Canadian National Institute for the Blind; Judge Reese Robrahn of Topeka, Kansas, president of the American Council of the Blind; and Cleo B. Dolan, Cleveland, Ohio, president of the American Association of Workers for the Blind.

East Berlin Conference

☐ At the conference on education in East Berlin, the United States has been invited to present one of the three major papers, the other two being presented by the Soviet Union and Czechoslovakia. Mr. Barnett reported that he has arranged for Dr. Jeanne Kenmore, director of the American Foundation for Overseas Blind's European Region office in Paris, to be responsible for the United States segment of the program.

Current Literature



The Role of the Resource Teacher in Mobility Instruction, by Thomas M. Trevena. Alameda County School Department (Curriculum Library, Rooom 190, 224 West Winton Avenue, Hayward, California 94544), 1971, 15p. $1.00. A detailed outline of various aspects of orientation and mobility instruction. The author includes suggestions as to books and journal articles helpful to the teacher and special devices and equipment useful to the student.

Experiences With Preschool Deaf-Blind Children, by Donald R. Calvert, Rayford C. Reddell, Ursula Jacobs, and Susanna Baltzer. *Exceptional Children* (The Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 S. Jefferson Davis Highway, Arlington, Virginia 22202), Vol. 38, No. 5, January 1972, pp. 415-21. Report on a pilot program established in 1966 at the San Francisco Hearing and Speech Center.

Changing Public Attitudes Toward Blindness, by Velma Marsh and Robert Friedman. *Exceptional Children* (see address above), Vol. 38, No. 5, January 1972, pp. 426-28. Brief report on a vision education program conducted with sighted freshmen at the Sierra High School in Whittier, California. The program's purpose was to dispel any mystery surrounding blindness and thus promote the integration of blind students into the social and educational life of the school.

Hartwick Serves Blind, by Carolyn Wolf and Joan Miller. *American Libraries* (American Library Association, 50 E. Huron Street, Chicago, Illinois 60611), Vol. 2, No. 11, December 1971, pp. 1193-94. The authors discuss the services the library at Hartwick College (Oneonta, New York) has been able to offer its four legally blind students.

Field Instruction With Blind Students, by Sidney H. Grossberg and Barbara L. Beyer. *Social Work Education Reporter* (Council on Social Work Education, 345 E. 46th Street, New York, New York 10017), Vol. 20, No. 1, December-January 1972, pp. 60-63. The special problems faced by the blind social work student are discussed and possible solutions are suggested.

Sculpture and the Blind, by Theo. Pauw. *Imfama* (South African National Council for the Blind, Reinet Building, 5th Floor, Andries Street, Pretoria, South Africa), Vol. 11, No. 5, October 1971, pp. 12-14, 20-21. Text of an address by the chairman of the South African National Council for the Blind delivered July 27, 1971, at the official opening of the Permanent Touch Gallery section in the South African National Gallery, Cape Town.

Proving a Point, by Elizabeth Wilson. *Tennessee Public Welfare Record* (Department of Public Welfare, 410 State Office Building, Nashville, Tennessee 37219), Vol. 34, No. 6, December 1971, pp. 127-29. The story of Mrs. Betty Jo Andrews, totally blind since the age of seven, and how she handles the details of her stenographic work in the Tennessee Department of Public Welfare.

Library Serves Blind Students, by Mary Mylecraine. *Music Journal* (1776 Broadway, New York, New York 10019), Vol. 29, No. 9, November 1971, pp. 13-15. Illustrated article by the supervisor of the Music Services Unit of the Library of Congress Division for the Blind and Physically Handicapped, describing the Unit's collection and services.

Intensifying Preventive Programs, by George James. *The Sight-Saving Review* (National Society for the Prevention of Blindness, 79 Madison Avenue, New York, New York 10016), Vol. 41, No. 3, Fall 1971, pp. 121-27. Text of paper presented at the 1971 Annual Conference of the National Society for the Prevention of Blindness, November 17, 1971, New York City.

—M.M.R.

Additional Listings

Recommended Aids for the Partially Sighted, by Louise L. Sloan. National Society for the Prevention of Blindness (79 Madison Avenue, New York, N.Y. 10017), 2d ed., 1971. 64 p. $2.00. A descriptive list of optical and nonoptical aids that will be of particular interest to ophthalmologists.

American Profile: What States Are Doing (and Can Do) to Hire the Handicapped. President's Committee on Employment of the Handicapped (Washington, D.C. 20210), vi + 74p. Free. This publication, the result of a project of the Public Service Committee of the President's Committee in cooperation with Governors' Committees, includes descriptions of all state practices regarding employment of handicapped persons in state jobs and sample policies and procedures which states, counties, or cities are free to adapt.

The Vietnam Era Veteran: Challenge for Change. Veterans Administration Information Service (810 Vermont Avenue, N.W., Washington, D.C. 20420), 65p. Free. Material from five regional seminars held in 1971 in which young veterans, psychologists, physicians, and the managers of VA hospitals met for frank discussions of problems, needed procedural changes, and ideas for new programs.

The Teachers Division of the National Federation of the Blind has begun publishing a quarterly newsletter. The first issue appeared in the *Braille Monitor,* December 1971; in the future it will be issued separately in both braille and inkprint editions. Membership in the Division, including a subscription to the newsletter, is one dollar per year for NFB members. Robert Acosta is president of the Teachers Division; Miss Judy Miller is editor of the newsletter.

News in Brief

■ From May to August 1972, the National Health Council, through its Committee on Continuing Education, will sponsor 11 short courses for personnel of official, professional, and voluntary health agencies and organizations. The course subjects will include comprehensive health planning, consultation skills, community organization in health care services, trends in community health care, executive development, leadership development, and the voluntary health agency in the community.

The courses will be conducted by the following cooperating institutions: Columbia University, George Williams College, Indiana University, University of Michigan, University of Oklahoma, and Washington University. Descriptive brochures and other information on these courses may be obtained by writing to Continuing Education Program, National Health Council, 1740 Broadway, New York, New York 10019.

■ What appears to be the first case of an adult having irreversible retinal damage induced by excessive oxygen was reported in the February 7, 1972, issue of the *Journal of the American Medical Association.* Tsutomu Kobayashi, M.D., and Seiitsu Murakami, M.D., of Kanazawa University Hospital, Japan, describe the treatment of a 32-year-old man suffering from myasthenia gravis which involved 150 days of hyperoxia through artificial ventilation with 80 percent oxygen. The resulting retrolental fibroplasia, formerly thought to be confined to immature retinas, left the patient with only partial vision in one eye and no vision in the other.

■ The National Accreditation Council for Agencies Serving the Blind and Visually Handicapped (79 Madison Avenue, Suite 1406, New York, New York 10016) has been forced to raise the prices of its publications. The new price list-order form is available on request.

■ In response to concerns expressed by the California Council of the Blind, the California State Division for the Blind has been relocated in the State Department of Social Welfare, raising its administrative direction to a higher level. According to the director of the department, Robert B. Carleson, the Council had complained about the apparent lower placement of the division in the department organization. The action means that the division chief will report directly to Mr. Carleson on policy matters and to Deputy Director Charles D. Hobbs on operations.

"This action is designed to give the department leadership more direct and efficient access to the problems of the needy blind in this state," Carleson declared, "and should reassure them that their needs remain at a high priority of interest."

■ A new portable, closed-circuit television reading system designed for use by persons with a visual handicap has been announced by Apollo Lasers, Inc. (6365 Arizona Circle, Los Angeles, California 90045). Designated the Model 4 Electronic Visual Aid, the system utilizes a compact camera stand which includes a zoom lens, scanning table, picture reversal camera, and special spotlight illuminator. It can be used with an industrial television monitor or an ordinary home receiver. The basic Model 4 camera system sells for $1,295; the complete system, including a 17-inch monitor, is $1,675, f.o.b. Los Angeles.

■ According to a news item in the December 1971 issue of the *New Beacon,* John Mills, a blind resident of Leicester, England, is learning to fly a dual-control glider as a part of an experiment to find out to what extent sound can replace sight for a pilot. The instructor and originator of the experiment is Peter Linfield, a lecturer in ophthalmic optics at the University of Aston, Birmingham.

■ International Services for the Blind, an affiliate agency of Arkansas Enterprises for the Blind, Little Rock, was organized recently and incorporated under the laws of the State of Arkansas. The purpose of the agency is to raise funds from private foundations and individuals to provide scholarships for blind persons and professional personnel from other countries to receive training at AEB. Under the leadership of its president, Edward G. Barry, Sr., of Little Rock, past president of Lions International, the agency will also provide consultative services for the development of rehabilitation programs for the blind in other countries.

■ Over the past three years, the Home Service Department of the New Jersey State Commission for the Blind has developed a program for recruiting and training paraprofessional assistants for its home teachers. Called "instructor assistants," these individuals provide supplementary instruction and services to clients when required, that is, at hours other than those of the agency's regular working day.

In an article in the December 1971 issue of the *Rehabilitation Teacher,* Helen Gromann, supervisor of rehabilitation teachers at the Commission, writes, "Such a program was needed, it was felt, because of the pressure of a great number of clients requiring services from a small home-teaching staff and because the agency is interested in reaching out to help the disadvantaged clients in the areas."

Complete guidelines for the Instructor Assistant Corps were developed by a special Home Service Department committee and are included in the article. *The Rehabilitation Teacher* is published by the National Braille Press, 88 St. Stephen Street, Boston, Massachusetts 02115.

■ In February, the Center for the Blind, Philadelphia, began a telephone news service called "Tape Tips." Those who call (215) EV 7-4400 hear a three-minute tape of news of particular interest to blind people, including news from the Center for the Blind and other groups offering services and recreation to blind persons; general news, such as coming cultural events, entertainment, clothing and food sales; announcements of specials for the week on radio and television; polling and voting information (non-partisan); and other appropriate, non-controversial topics. News items submitted by individuals and selected according to interest and news value by the Center's Social Service Department are also included. A new tape is "aired" once or twice a week.

■ The Optiscope Enlarger, a portable (14 pounds), optical reading system that projects a magnified (4X) black and white or color image on a self-contained, polarizing screen (9" x 14"), is now being produced by Opaque Systems Ltd. (100 Taft Avenue, Hempstead, New York 11550). Developed by a team of research scientists headed by Alphonse P. Cinque, the key components of the device are a patented, high intensity light source and a unique and highly sophisticated optical system.

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■ "The Therapeutic Community: From Theory to Practice" is the topic of the 10th Kramer Foundation Educational Institute in the series Toward Therapeutic Long Term Care to be held at the Plum Grove Nursing Home, Palatine, Illinois. Further information is available from Dr. Leon Schwartz, Coordinator, Kramer Foundation, 2 West Johnson Street, Palatine, Illinois 60067.

■ An embossed Roman alphabet card and a braille alphabet card, designed for use in communication with deaf-blind persons and formerly distributed by the American Foundation for the Blind, are now available on request from the National Center for Deaf-Blind Youths and Adults, 105 Fifth Avenue, New Hyde Park, New York 11040.

■ The National Foundation-March of Dimes recently issued a statement warning that pregnant women who eat rare or raw meat or who handle cat feces may contract toxoplasmosis, a parasitic infection that can cause blindness or brain damage in the unborn child or even kill it. About five percent of the cases of blindness in the United States are caused by the infection, with even higher rates being suspected in tropical areas and in Europe.

■ The General Assembly of the Commonwealth of Virginia recently adopted a resolution commemorating the fiftieth anniversary of the Virginia Commission for the Visually Handicapped, citing their "comprehensive and innovative services for the blind and partially sighted, special education programs for visually impaired children, rehabilitation services for visually handicapped adults and a variety of services for blind citizens of all ages of the Commonwealth. . . ." A. Fleet Dillard is chairman of the Commission; William T. Coppage is director.

■ In October 1970, the North American Committee on Services for Deaf-Blind Children and Youth was formally established in Louisville by the appointment of a chairman, secretary-treasurer, and an Executive Committee. In October 1971, again in Louisville, by-laws were adopted opening membership "to all who for private or professional reasons are involved in serving deaf-blind children and youth."

Persons wishing to enroll as members may do so by applying to the secretary-treasurer of the Committee, Harold G. Roberts (American Foundation for the Blind, 15 West 16th Street, New York, New York 10011), enclosing two dollars in payment of annual dues. It would be helpful to the Executive Committee if applicants would indicate the nature of their relationship with deaf-blind children and youth.

A meeting of the Committee has been scheduled for 7:00 p.m., Wednesday, June 28, 1972, during the 51st Biennial Conference of the Association for the Education of the Visually Handicapped in Miami Beach, Florida.

Copies of the by-laws are available from Mr. Roberts or from the chairman, Dr. E. J. Waterhouse (Perkins School for the Blind, Watertown, Massachusetts 02172).

Appointments

■ National Eye Institute: **Jin N. Kinoshita, Ph.D.,** chief, Laboratory of Vision Research.

■ Center for the Blind, Philadelphia: **Mrs. Elizabeth Coleman,** coordinator of volunteers.

■ **Dr. Arthur S. Flemming,** special consultant to the President on aging.

■ Evansville (Indiana) Association for the Blind: **David Gentry,** director of rehabilitation counseling and program development; **Mrs. Alana Frasier,** homemaking and personal management instructor.

■ American Occupational Therapy Association: **Leo C. Fanning,** executive director.

■ Committee for Purchases of Products and Services of the Blind and Other Severely Handicapped, new members: **Dr. Anne Carlsen,** administrator, Crippled Children's School, Jamestown, North Dakota; **Jansen Noyes, Jr.,** chairman of the board, American Foundation for the Blind, New York City; **Thomas Hasbrook,** Indianapolis.

Awards

■ President's Committee on Employment of the Handicapped:

Handicapped Professional Woman of the Year: **Mary Kathleen McGraw,** Cleveland.

Physician of the Year, **Kenneth Arn, M.D.,** Dayton, Ohio.

John E. Fogarty Public Personnel

Award, **Mrs. Claudine J. Humphrey,** deputy director, Employment Coordination Services, Office of the Secretary of the Army, Washington, D.C.

Employer of the Year—Larger Business Category, **Fairchild Semiconductor,** Shiprock, New Mexico.

Employer of the Year—Small Business Category, **Jackson Chair Company,** Danville, Kentucky.

Handicapped Americans of the Year, **Richard** and **Robert Santin,** Fullerton, Nebraska.

Distinguished Service Award, **Gerald Bradley,** Los Angeles (member of the President's Committee); **Don Davis,** Oklahoma City (executive director, Oklahoma Governor's Committee on Employment of the Handicapped); **Daniel J. Flood,** Wilkes-Barre, Pennsylvania (U.S. Congressman); **John Bell Williams,** Jackson, Mississippi (Governor of Mississippi).

■ Superior Performance Award, District of Columbia, Maryland, West Virginia Chapters of the American Association of Workers for the Blind: **Ann Chapman,** director of children's services, Columbia Lighthouse for the Blind, Washington, D.C.

■ California State Compensation Insurance Fund award plaque: **Blindcraft, San Francisco Lighthouse for the Blind** (for 128,000 man hours without loss of time due to accident).

■ R. N. Anderson Award, Virginia Rehabilitation Association: **William T. Coppage,** director, Virginia Commission for the Visually Handicapped, Richmond.

Coming Events

May 2-3 National Braille Association, Regional Meeting, Saddle Brook, New Jersey.

May 6-10 General Council of Workshops for the Blind, Spring Workshop, Phoenix.

May 7-10 American Public Welfare Association, Central States Regional Conference, St. Louis.

May 14-16 American Association of Workers for the Blind, Midwest Regional Conference, Dayton, Ohio.

May 19-20 National Congress of Organizations of the Physically Handicapped, Waterloo, Iowa.

May 21-24 National Rehabilitation Association, Mid-Atlantic Region, Annual Conference, Baltimore.

May 22-24 National Rehabilitation Association, Pacific Region, Annual Conference, Portland, Oregon.

May 24-26 National Rehabilitation Association, Great Plains Region, Annual Conference, Colorado Springs.

May 24-27 American Public Welfare Association, Mountain States Regional Conference, Denver.

May 26-27 National Task Force on Geriatric Blindness, Annual Meeting (a Pre-Forum Session of the National Conference on Social Welfare Annual Forum), Chicago.

May 28-June 2 National Conference on Social Welfare, 99th Annual Forum, Chicago.

May 29-31 American Ophthalmological Society, 108th Annual Meeting, Hot Springs, Virginia.

June 4-7 National Rehabilitation Association, Great Lakes Region, Annual Conference, St. Paul, Minnesota.

June 4-8 Special Libraries Association, Boston.

June 7-9 American Association of Workers for the Blind, Southwest Regional Conference, Oklahoma City.

June 7-9 National Rehabilitation Association, Northeast Region, Annual Conference, Kerhonkson, New York.

June 11-15 Medical Libraries Association, San Diego, California.

June 22-25 Optical Manufacturers Association, Optical Fair, St. Louis.

June 23-24 National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, Annual Meeting, Miami Beach.

June 24-30 National Education Association, 110th Annual Convention, Atlantic City.

June 25-29 Association for Education of the Visually Handicapped, 51st Biennial Conference, Miami Beach.

June 28 North American Committee on Services for Deaf-Blind Children and Youth, Miami Beach.

June 29-July 1 Lions International Convention, Mexico City.

July 2-7 International Association of Gerontology, Ninth International Congress, Kiev, U.S.S.R.

July 2-7 National Federation of the Blind, National Convention, Chicago.

July 5-8 American Council of the Blind, 11th Annual Convention, Portland, Oregon.

July 19-22 Blinded Veterans Association, 27th National Convention, Hollywood, California.

July 23-26 National Rehabilitation Association, Southwest Region, Annual Conference, Dallas.

July 25-26 Mid-America Conference of Rehabilitation Teachers, Chattanooga, Tennessee.

July 26-28 American Association of Workers for the Blind, Southeast Regional Conference, Chattanooga, Tennessee.

July 26-August 2 International Council of Educators of Blind Youth, Fifth Quinquennial Conference, Madrid, Spain.

July 29-August 2 International Association for Child Psychiatry and Allied Professions, 8th International Congress, Philadelphia.

August 13-19 International Council on Social Welfare, 16th International Conference, The Hague, Netherlands.

August 27-September 1 International Society for Rehabilitation of the Disabled, 12th World Congress, Sydney, Australia.

September 5-8 American Public Welfare Association, Northeast Regional Conference, San Juan, Puerto Rico.

September 11-13 Gerontology Around the World, 25th Annual Conference on Aging, University of Michigan, Ann Arbor.

September 19-22 American Public Welfare Association, Southeast Regional Conference, Biloxi, Mississippi.

September 20-22 American Association of Workers for the Blind, New England Regional Conference, Hyannis, Massachusetts.

September 24-28 American Academy of Ophthalmology and Otolaryngology, 77th Annual Meeting, Dallas.

September 28-30 American Association of Workers for the Blind, Western Regional Conference, San Francisco.

October 1-6 Fifth International Congress on Mental Retardation, Montreal.

October 22-25 American Public Welfare Association, Western Regional Conference, Phoenix.

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BLIND CHILDREN LEARN TO READ *by* **Berthold Lowenfeld**; *and* **Georgie Lee Abel** *and* **Philip H. Hatlen**, *both of San Francisco State College.* Determines the characteristics of efficient braille readers and provides methods of instruction likely to produce them. Gives information on the challenge of teaching touch reading to blind children. Chapters also deal with the role of the teacher, securing the needed books in braille and of using other reading media, and special problems in braille reading. The origin and history of braille is covered along with a review of the literature. *'69, 196 pp., 16 tables, $8.50*

TEACHING THE VISUALLY LIMITED CHILD *by* **Virginia E. Bishop**, *Chester County Public Schools, West Chester, Pennsylvania. Foreword by* **Natalie Barraga**. *Drawings by* **Charles C. Denzler**. *Photographs by* **Charles L. Bishop**. Describes in lay terms the most common eye defects, techniques of vision screening, and the differences of vision and visual perception. The development of listening skills, adaptations in normal academic curriculums, and teaching techniques are shown. *'71, 224 pp., 21 il., 4 tables, $9.50*

SOCIAL AND REHABILITATION SERVICES FOR THE BLIND *by* **Richard E. Hardy**, *Virginia Commonwealth Univ., Richmond, and* **John G. Cull**, *Virginia Commonwealth Univ., Fishersville. (22 Contributors)* Beginning with history and philosophy, the text covers legal aspects, the rehabilitation process, eye diseases, mobility problems, private agencies, community resources, the psychological impact of blindness, research undertakings, and many other equally interesting and important topics. *'72, about 400 pp.*

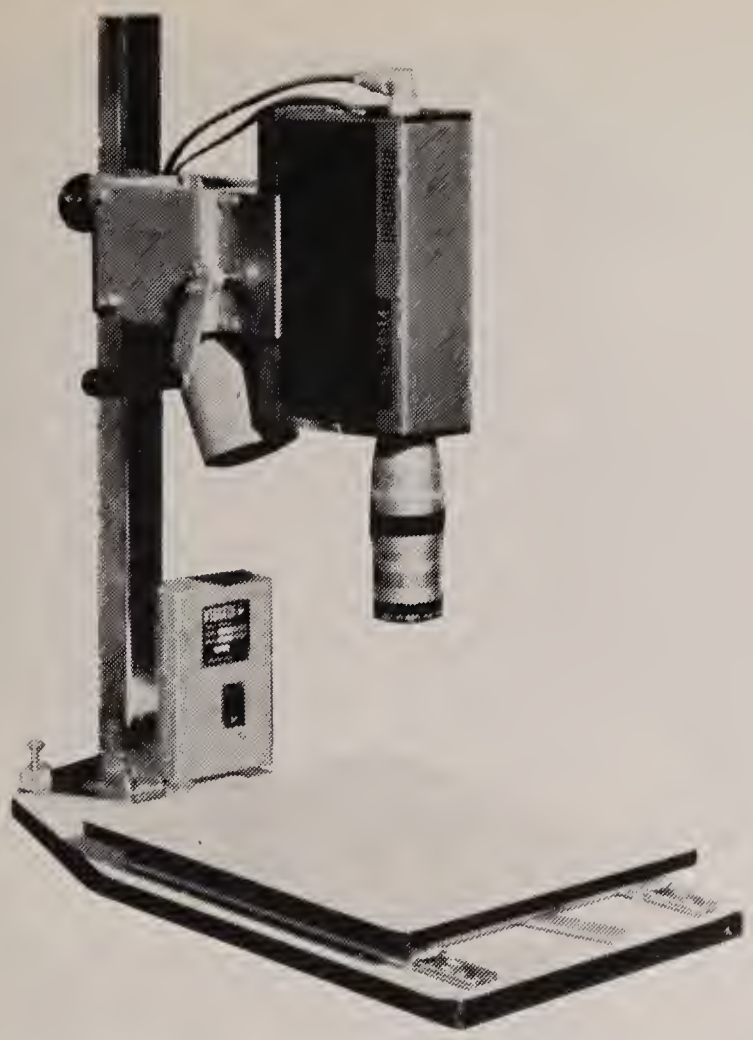
PROTECTION OF VISION IN CHILDREN *by* **Arnall Patz** *and* **Richard E. Hoover**, *both of The Johns Hopkins Univ. School of Medicine, Baltimore. (2 Contributors)* Presents practical methods for prevention, early detection and management of visual defects. Several newer aspects of vision screening are described in step-by-step fashion. Emphasis is on visual acuity screening programs when prevention and restoration of vision can best be achieved. *'69, 184 pp., 94 il., 1 table, $10.00*

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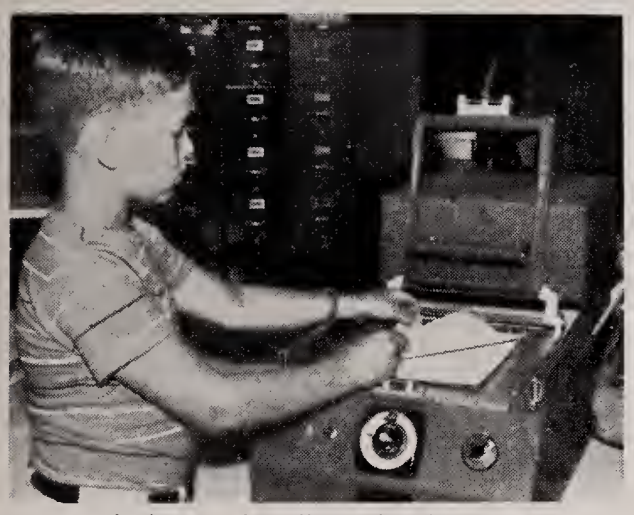
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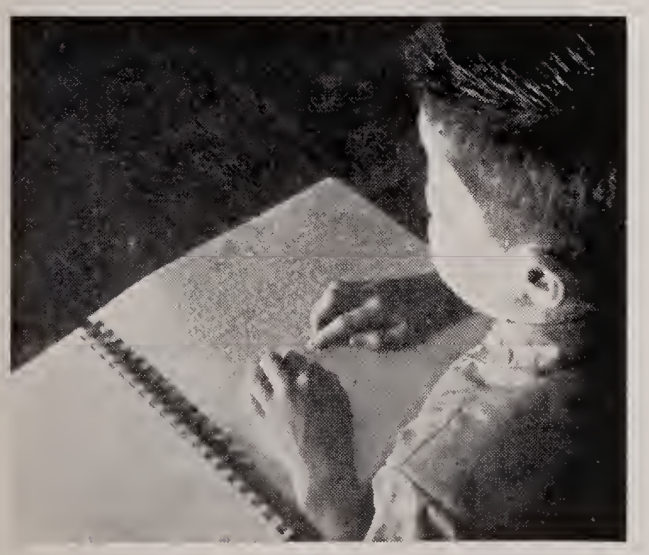


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Teaching English as a Second Language to Blind People

Therese Snyder, C.S.W. and *Marcia Kesselman*

Using Video Tape in the Education of Deaf-Blind Children

Lars Guldager

THE NEW Outlook FOR THE BLIND

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FOR THE BLIND

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Teaching English as a Second Language to Blind People

THERESE SNYDER, C.S.W.
MARCIA KESSELMAN

Ms. Snyder is director of the Catholic Guild for the Blind, New York City; Ms. Kesselman was an English instructor at the Guild.

The teaching of English as a Second Language (ESL) is an integral part of the rehabilitation program for all non-English-speaking clients at the Catholic Guild for the Blind, New York City. The program, which was established with the assistance of the New York State Commission for the Blind, began in March 1968 and has been operating continually since then. At the time it began, there was no similar on-going service available in the New York metropolitan area.

The Guild's ESL Students

☐ Since the program began, about 30 students have attended English classes. The students have come from five countries, mostly Latin America in addition to Puerto Rico. They have ranged in age from nine to 63. The majority have been in their twenties and there has been about an equal number of men and women. About half of the students have graduated from high school in their native countries; about a third have had no formal education. The remainder have had a few years of primary school, but are not literate in their native language. More than half are welfare recipients.

ALI materials are used

The method of instruction is based on the principles of modern linguistic science as they have been incorporated into programs for sighted individuals. Specifically, the materials developed at the American Language Institute (ALI), New York University School of Continuing Education, have been used extensively and where necessary adapted for use at the Guild. Professionally trained instructors, many referred by New York University, have been able to use materials with surprisingly few revisions to accommodate for the students' visual handicaps.

Aural-oral approach

The principles upon which the materials are based include the aural-oral method, all training being received initially through the ear. Thus, the students must first master the sound system of English before attempting to read or write it. As individuals engaged in working with visually handicapped persons are aware, the ear becomes a primary source for learning. Consequently, developing a trained ear is one of the essentials in the visually handicapped person's rehabilitation in many areas. Non-English-speaking persons at the Guild utilize their aural facility to abet them in the study of a new language.

Graphic symbols introduced later

Consequently, the students are not confronted with the graphic symbols of the English language at the beginning level while learning the grammatical principles. Careful attention is given to this principle, particularly at the beginning stages of learning, where no graphic presentations whatsoever are encountered by the student. This may be for six to eight weeks or until such time as the instructor feels the students have thoroughly mastered the oral patterns and are ready to attempt the

graphic presentation of English. At some point later on when they indicate their readiness, reading and writing may be introduced.

Oral Practice

☐ At least one-half hour per lesson is devoted to purely oral practice. This is true for all levels of learning. No matter what the level of the student, he must have a firm grasp of English sentence patterns before he reproduces them graphically. For the visually handicapped student, the principles involved in learning English as a second language, particularly on a beginning level, are surprisingly similar to those used with sighted students. An outstanding difference is the consistent use of the tape recorder at home as well as in class.

Use of tape recorders

Oral practice is reinforced by the use of the tape recorder. Every student is presented with his own portable cassette when he begins class. The student is given a tape of each new lesson to use when he is by himself. He may also record his own voice on it and replay the tape at home. This allows him the opportunity to hear his own mistakes as well as his accomplishments. The tape recorder largely replaces the visual stimulus that sighted students use to start oral practice.

Since the chief objectives of the aural-oral approach are mastering the sound system, word order and patterns of English vocabulary must be limited at the beginning levels. Again, hearing and reproducing unfamiliar speech sounds of English precede attempts to learn new vocabulary. As the student progresses to an intermediate stage, more attention is devoted to learning the lexicon features of the language within and in addition to reading and writing exercises.

Gestures and facial expressions

Certain additions have been inserted in the ALI materials for the blind student. These additions include: 1) the teaching of gestures and 2) the teaching of facial expressions (these are most relevant for the congenitally blind individual). The need for teaching gestures to the visually handicapped individual is emphasized in social and professional situations in which he may appear awkward. This may be due to a lack of mobility. It may be due to a lack of awareness of the appropriate gestures peculiar to situations that are characteristic of the new culture.

Use of Tactile Stimulation

☐ Of course, the learning of some vocabulary is necessary, even at the beginning stages. But whereas with a sighted person, it is frequently introduced with visual aids, the visually handicapped person is presented with tactile stimulation. Nevertheless, students are encouraged to use whatever residual vision they have, and some are able to take advantage of both visual and tactile aids. Tactile stimulation, as it is employed, includes: dolls for teaching introductions, raised line drawing kits, artificial fruit, toys of various kinds, the utilization of certain situations as they occur during class sessions, practical daily techniques such as dialing a telephone, sorting money, etc.

Classes

Classes generally meet three times a week for a two-hour session. But the length of the session ultimately depends on the instructors' feelings regarding the students' ability to absorb the new material. This fact does not preclude the totally uneducated students from long sessions, but, generally speaking, those who have had little formal education experience some difficulty in remaining in a formal classroom

environment for any significant length of time. More breaks and shorter sessions are indicated.

ESL Lessons and Other Learning

☐ Coffee breaks normally take place between classes for 15- to 20-minute intervals. Some beginning students enjoy their break as a part of the class itself. This experience permits learning through language in action. An important aspect of English lessons for our students has to do with the physical orientation that they learn in connection with their mobility. Therefore, the content of the standard English class on any level is modified to include the kind of directions a blind person requires in self-travel. This information is useful in subsequent mobility lessons. Thus, the student is able to grasp the significance of his English classes in relation to his own welfare. The structure may be as rudimentary as the use of the verb "to be" for the beginning level or much more advanced, such as in the use of various "modals." For example, in a lesson devoted to the use of "will" in statements and questions and including the use of questions involving the expression "Please tell me," the situation of boarding a bus was used. Student: "Will you please tell me when we arrive at the Port Authority?" Driver: "Yes, I will. We will arrive there in about an hour." Student: "Will you please tell me where there is an empty seat?" Driver: "Certainly, I will ask someone to direct you to it." Student: "Thank you."

Sample lesson

Students are grouped for classes in accordance with their ability to handle English. Educational factors are also given consideration. Therefore, the number of students in each class varies greatly with the ability and education of the students involved in the program at any particular time. Generally speaking, the number ranges from individual tutoring to five members to a class. No formal testing system has been devised. To a large extent, it is left to the discretion of the teacher.

The grouping of students

Certain aspects of the program permit both educated and non-educated students as well as beginning and advanced ones to be in the same class. When students are learning skills of daily living (SDL), the information conveyed in the content of the lessons may be significant enough for the more advanced students to attend the classes although they are familiar with the English patterns being practiced. Consequently, for these students, this lesson becomes a grammatical review, but the vocabulary and expressions having to do with daily living may be totally new. The instructor is informed a day or so in advance by the SDL teacher if this is necessary. The English classes may be followed by an SDL class, beginning and advanced, where students practice the motions which are part of the SDL lessons, and reinforce English expressions which normally accompany them. Some of the expressions and gestures which occur in themes for lessons generally on all levels covered are: hellos and good-byes, shaking hands and the appropriate verbal amenities, preparation for work, social relations between the sexes, particularly among youth, conventions of modesty, grooming, handling money (we use coins in teaching how to count), and experiences which may occur at work.

Skills of daily living

The uneducated students have limited attention spans. As already in-

dicated, this requires shorter and more frequent periods of learning. Aural exercises are simplified and shortened. These students may be more self-conscious about their environment. If this is the case, they are permitted to sit and listen for a few sessions before participating in the exercises. Their goals must also be modified and frequent encouragement given.

Advanced Training

☐ Students with a formal education who hope to make their homes in New York or who wish to remain until they reach their vocational goals, have a more extensive program. Advanced English students with sufficient formal education may have a program of English related to their vocational rehabilitation, either at an agency for the blind or at a local college where adult education courses are offered. Some of the vocational courses that these students take are: dictaphone training, industrial training, piano technology, and para-professional services.

English and vocational training

Once a student decides on his vocational goal, and begins training for it, adjustments are made in his English program to permit the teacher to assist him with foreign terminology and forms that he encounters. For example, those studying secretarial skills at an evening business school or college may require extra help with business correspondence. This may ultimately mean a need for private lessons rather than class lessons. Where this is feasible, it is arranged. Thus, grouping is accomplished on an individual basis and program changes depend on the needs of the students who come to the Guild.

Case Histories

☐ A brief recounting of a few case histories serves to illustrate some of the effects of the program upon individuals enrolled in it.

Miss L.—Seeking independence

Miss L. is a client who has already realized a good deal of success, but whose goal involves more time and enrichment of instruction than that of others in the program. Miss L., a 28-year-old legally blind woman, had been sheltered by her affluent family in South America and came to the United States seeking an independent way of living. She saw the learning of English as a means to the acquisition of other skills which would prepare her to teach blind persons in her own country. She spoke no English when she came to the Guild less than two years ago, and after only a few months of English instruction, during which time she made remarkable progress, she requested and was granted a student visa. In less than a year she enrolled in an ESL program at a local university. While taking this course she continued to attend the Guild daily, where she was assisted by our English instructor. A volunteer transcribed her assignments into large type. The following semester she enrolled in college courses which she has continued taking while working as a volunteer at the Guild assisting other Spanish-speaking clients. She still hopes to return to South America as a teacher of blind persons.

Miss M.—Unmotivated

Not all students have been as successful as Miss L. Some have attained partial success and others little or none. For example, Miss M., a 22-year-old congenitally blind woman, received no formal education in her *barrio* home in Puerto Rico. When she came to the Guild two years ago, she showed little confidence in her ability to learn. Absences

were frequent. Her attention span in class was poor. A psychological evaluation which was administered in Spanish revealed nearly average potential. As a result, supportive casework was offered. The Guild was able to sustain her interest in English until she had acquired only a passive knowledge of it, but was able to communicate her basic needs. However, her minor success in mastering some English grammar and vocabulary was a prelude to the learning of other skills including some self-travel. Nevertheless, at the point of referral for vocational training at another agency, she discontinued all rehabilitation services. It appears that without further psychological help, Miss M. will neither be independent in English nor successful in obtaining remunerative employment.

Mrs. B.—Very Successful

☐ Students with strong vocational goals have made the greatest achievements. Mrs. B., a 41-year-old partially sighted housewife and mother, was classified at a pre-intermediate level in English when she came to the Guild. After a few months of intensive instruction, she was enrolled in a dictaphone training course at another agency while she continued her English lessons at the Guild. Upon completion of her training, she was placed in an appropriate job and is currently employed.

Mr. E.—Highly motivated

Mr. E., a 28-year-old congenitally blind man, had no formal education but had received some training at a rehabilitation center in Puerto Rico. He had a strong desire to become a piano technician and came to New York to pursue this goal. After receiving about six months of training in English, he was able to enroll in a piano technology course in another city. He will receive further tutoring in English along with his vocational training.

Mrs. G.—A new way of life

The final example, a former English student who has already returned to her country is Mrs. G., a 26-year-old newly blinded mother. She came to the United States from Latin America with her mother and two children, seeking ophthalmological help. She was referred to the Guild for rehabilitation and initially appeared totally dependent upon her mother. A comprehensive program of Guild services was administered. It was apparent that she had outstanding linguistic ability as well as abilities in other areas. Mrs. G.'s mother and children returned home leaving our client to board with a family in New York while she completed her rehabilitation. At the Guild, she and her instructors had the opportunity to speak with the principal of a school for the blind in her country, who indicated that it was difficult for blind people to be accepted in business there, but that knowledge of English would be a definite asset in seeking employment. Upon completion of her rehabilitation, Mrs. G. returned to her home equipped with skills and a new language which hopefully will enable her to function independently in homemaking as well as in employment.

ESL and Kinesics

☐ Certain aspects of the program must be explored more from the ESL teacher's viewpoint. These are chiefly in the area of kinesics—the structured use of bodily motion in communication. Henry Lee Smith, Jr. defines it in *Linguistics* when he quotes the anthropologist, Birdwhistle,

"Body motion can be studied as a patterned system which must be learned by every individual if he is to participate fully as a member of his society. Complex and ordered, its internalization is integral to both enculturation and socialization. Its patterning is probably every bit as coercive as is that of Language." There is a need for further investigation into para-language and its relationship to teaching a second language to blind people. As those who work with visually handicapped persons are aware, intonation, stress, and pitch become even more significant for communication. In fact, meaning conveyed through inflection of the voice and intonation may be synonymous with what is conveyed to the sighted person by facial expressions.

Input from other fields

Similarly, in line with the goals of the Guild itself, exists the idea of drawing on experience directly related to teaching blind people in all fields. Together with more emphasis on the teaching of gestures, movement, and mobility, there is a need for operating in a cosmopolitan area like New York City where there is a high concentration of Spanish-speaking people requiring the Guild's services. It would seem, however, that blind persons with other language backgrounds coming to the United States should also have the opportunity to learn English.

The Guild hopes to be considered as a source for the teaching of ESL to visually handicapped persons because of its success in this specialized field. It looks forward to expansion and further cooperation with other agencies as well as with educational institutions.

Observations

☐ In terms of its experience, the Guild makes the following observations: 1) Blind people learn a second language best in intimate monolingual settings. 2) Vocational motivation stimulates the most incentive to learn English. 3) Both educated and uneducated visually handicapped students can *demonstrate exceptional ability to learn a new language*. This seems to be the result of the additional aural sensitivity and memory training they undertake as part of their rehabilitation. 4) The blind or partially sighted individual is not handicapped by lack of visual aids in the new language learning process. 5) The individual is abetted by tactile stimulation during the learning sessions. 6) The teaching of gestures native to the new culture of the blind person underlies progress in this mobility training and aids in teaching social and professional goals. 7) Additional emphasis on stress, intonation, and pitch becomes more relevant when teaching blind people a new language. 8) Whereas certain agencies which conduct tutoring programs in ESL for sighted students base themselves in the students' homes, ESL programs for teaching blind people function better in a central location for instruction, to which all students are required to travel. 9) ESL training for the blind individual is viewed as an aspect of his total rehabilitation and constantly stresses the interrelationship between the various instructors in rehabilitation agencies. They are a team sharing the responsibilities of training the blind individual to become more independent in his environment and are involved in teaching "language in action."

Integral part of rehabilitation

Alaska's Rural Home Helper Program

MARGARET A. BARTOO
BERNARD SCHWIND

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Growing old can be tough. Growing old and becoming blind can be tougher yet. But growing old and blind in Nunatak, Alaska, poses problems that are undreamed of in "The Lower 48."

Nunatak is an Eskimo village of 400 people located just above the Arctic Circle and 60 miles east of Kotzebue, the medical and supply resource for the village. Mail and staple supplies are flown in by bush plane to the village three times a week. Nunatak is situated on both banks of the Nunatak River and on a river island. In the summer almost all activities in the village (getting to the post office, school, store, etc. and social visiting) require the use of boats for crossing back and forth between the three parts of the village.

Life on the Arctic Circle

☐ The economy of Nunatak has always been based on hunting, trapping, and fishing. Being on the Arctic Circle, the climate of the area is extremely harsh: the temperature ranges from 60 degrees Fahrenheit below zero in the winter (with the chill factor often well below minus 100 degrees) to over 100 degrees above zero in the summer. Nevertheless, in the old days, a strong man with a good team of dogs could build his family a log house that was easily heated with wood. What little cash the family needed for such items as hunting equipment, staple foods, tobacco, some clothing, etc., could be procured from the sale of muskrat, wolf, wolverine, and fox furs, which used to bring good prices from the traders. Furs were also used for making most of the clothing for the family. Caribou was readily available much of the year as a source of protein, with fish and birds, berries and wild greens rounding out the diet.

Robert and Susie Ikik

For most of their lives, Robert and Susie Ikik knew this kind of life. In their mid-80's now, they still live in the small, comfortable log house that Robert built for his growing family many years ago. Old age and Mr. Ikik's increasing visual loss, however, have gradually reduced the Ikiks' ability to provide for themselves in the old ways. Their children no longer live in the village and cannot, therefore, assist their parents. The Ikiks have always lived in Nunatak and dread the thought of moving to an unfamiliar place.

Using food money for help

Both Mr. and Mrs. Ikik receive Old Age Assistance from the State Department of Health and Social Services, but in recent years more and more of their funds have been used to pay neighbors to perform the vital chores with which they can no longer cope. For example, the village houses are heated by wood or oil stoves. Since oil must be brought up the river by barge and is therefore very expensive, many villagers, including the Ikiks, must still gather wood to burn. Getting water involves

cutting and hauling ice in the winter and carrying water some distance in the summer. In addition, the river must be continually crossed in order to obtain supplies. Since Mr. Ikik can no longer provide extra food by hunting, they need to buy more food than in the past. But since they are paying for many everyday services, there is less and less money for food. Despite the poverty-stricken existence into which they were sinking, however, the alternative—being cared for in a nursing home in Anchorage—seemed less desirable to Mr. and Mrs. Ikik.

Homemaker Service

☐ In 1970, Mr. and Mrs. Ikik's caseworker flew into the village from the district office in Kotzebue. He talked with the Ikiks and with their neighbors and observed their situation. It was apparent that Mrs. Ikik had become too feeble to care for her home even with the help that they were purchasing. The caseworker therefore recommended that the couple take advantage of the then new Homemaker Service of the Department of Health and Social Services. Mr. Ikik's seamed old face broke into a broad smile as the caseworker explained that a strong, young home helper could be hired to do such heavy work as gathering wood, getting water and ice, cooking meals, shopping, and cleaning the house. He assisted the old couple in locating a villager who was willing to give two or three hours of assistance to the Ikiks each day. It was explained that the home helper would be paid by the state rather than by the Ikiks from their Old Age Assistance checks. Now it was Mrs. Ikik's turn to smile as she visualized the food and warm clothing she would be able to buy with the money that she had been paying for services. The neighbor too was happy since there have never been but a very few sources of cash income in Nunatak's subsistence economy.

Health and dignity return

Today Robert and Susie Ikik still live in Nunatak. The temperature in the dark December days still falls to 50 below, but Mr. and Mrs. Ikik don't mind. It has always been this way in Nunatak and they neither know nor desire any other life. Fire wood is plentiful. Ice cut from the river melts in a pail next to the stove. The home helper has fixed the caribou roast that Mr. Ikik purchased from a young hunter and Mrs. Ikik is helping to prepare the meal. Both Mr. and Mrs. Ikik are in better health now. Friends and neighbors drop in frequently and the talk is happy and lively—Mr. Ikik relates hunting exploits of long ago, while Mrs. Ikik proudly serves tea to the visitors. The Ikiks have regained their dignity and maintained their own way of life.

A Reminder

Readers are reminded that the *New Outlook for the Blind* is not published during the months of July and August. Publication will be resumed with the September issue.

Improving Braille Reading

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Teaching Braille to Children

As braille became the accepted mode of reading and of written communication for blind persons, a vital area for educational concern was the rate at which it could be read. The average rate of touch reading has been found to be two to three times slower than the average rate of print reading: Burklen,[4] Hayes,[7] Merry,[12] Niday,[13] Lowenfeld,[10] Foulke, Amster, Nolan, and Bixler,[6] Lowenfeld, Abil, and Hatlan,[11] and Nolan and Kederis.[14]

☐ The braille reading habits of a child are established by the time he reaches the third grade level in school, according to Fertsch,[5] and this is when most of his formal instruction in braille ends. As silent reading receives more emphasis within the curriculum, the braille reader begins to fall behind his sighted peer group in rate of reading. Nolan and Kederis[14] have determined that the mechanical aspects of reading are still problem areas in the upper elementary grades and that the reading rates of braille readers level off by the ninth grade. Before character recognition skills can be increased and the perceptual model of the reading environment so necessary to skilled reading can be developed, the mechanical aspects of reading must be mastered.

Improving code recognition

Little research has been conducted to determine how much the quality and speed of braille reading would improve if more attention were given to stressing the immediate recognition and knowledge of the braille code in conjunction with the various methods and materials used in the teaching of reading. Regardless of how good the mechanics of reading, if a reader is plagued by braille errors, he can be neither an efficient nor an effective reader.[2]

Relevant research

Conducting a most extensive study of the oral performance of children reading braille, Ashcroft[1] identified and classified errors according to type, frequency, and grade level. In a six-year study of the perceptual factors in braille character and word recognition, Nolan and Kederis[14] more clearly delineated the cues which make braille word recognition possible and confirmed Ashcroft's findings regarding those factors which affect the amount of time required by braille readers to recognize words.

Effect of additional training

Operating on the assumption that the braille character is the perceptual unit in reading, Henderson[8] investigated the effect that training for speed and accuracy in the recognition of the 55 single-cell char-

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acters within the braille code would have on the reading process of pupils in grades three to six. The experimental group decreased its reading time for the characters by a statistically significant 42 percent and decreased its mean number of errors by 84 percent. Training, therefore, effectively produces an improvement in braille character recognition and an increased efficiency of the total reading process of students in the elementary grades.

Purpose of This Study

☐ The purpose of the present study was to determine whether instruction for increasing the speed and accuracy of recognition of the one-cell whole word and part-word signs, the two-cell contractions, and short-form words in English Braille would improve the braille reading process for high school students.

Test materials

Two forms of the Oral Reading Test, developed by the investigator and averaging 705 words in length, were used. The oral tests at the ninth to tenth grade level of readability included all 189 contractions and short-form words in English Braille. Twenty Braille Code Recognition Lists (BCRL's), containing 176 randomly assigned contractions and short-form words, were also constructed to provide measures of the rate and accuracy of the reading of the code signs. In conjunction with the BCRL's, 12 discrimination-type lessons consisting of repeated practice and specific drill exercises were developed to help increase the accuracy and reading rate of the various code symbols. Three formats were used to offer variety to the exercises. These lessons were constructed with relevance to the errors which, according to the literature,[1,8,14] occur most frequently. The frequency of individual items was not determined proportionately in terms of the error indexes of the previous studies, but emphasis was given to missed dots, reversals, and alignment errors. The results of silent reading were obtained by using three forms of the Diagnostic Reading Tests: Survey Section (this and other testing materials used in this study are available from the American Printing House for the Blind).

Six criterion measures

Six criterion measures provided the data determining the effects of a 15-day training program. The hypotheses tested for each criterion measure were that after pre-testing and the 15-day intervention, there would be significant post-test differences in favor of the experimental group over the control group on: 1) the gain in the silent reading speed on the silent reading test; 2) the gain in accuracy on the comprehension test of the silent reading test; 3) the gain in oral reading speed on an individually administered oral reading test; 5) the gain in oral reading speed on the braille code recognition test; and 6) the gain in accuracy on the braille code recognition test.

The 72 subjects in the study were selected from the high school grades of three state residential schools for the blind in the Midwest. All of them had used braille as their primary reading medium for approximately three years, and were free from any secondary handicaps which would have adversely affected reading performance. Scores for rate of reading and comprehension on a silent reading test were used to

divide all of the students who met the selecting criteria into high, medium, and low levels of reading as shown in Table 1. The subjects were then designated by random sampling into either the experimental group or the control group.

The 15-day training program was provided for one-half hour each day for the experimental group of 36 subjects, while the 36 control subjects continued their regular daily activities. Pre-training and post-training scores were obtained on time and accuracy for braille code recognition and for oral reading. The pre-training and post-training scores on time and comprehension of the silent reading test were obtained under motivated conditions with the three students who demonstrated the greatest improvement at each of the three schools receiving a monetary award of one, two, or three dollars. The control for motivation was included because of the findings of Kederis, Nolan, and Morris.[9] The means of the pre-treatment and the post-treatment scores were compared at the three levels of reading for both the experimental and the control groups. A 2 x 2 x 3 analysis of variance was used to test for statistically significant differences for the main effects and interactions of levels, groups, and tests.

The training program in braille code recognition for the experimental subjects resulted in a highly significant gain in both rate and accuracy from pre-test to post-test. The pre-test, which contained 176 randomly assigned contractions and short-form words in English Braille, revealed that the mean number of errors for the experimental group was 17, whereas the control group had a mean of 18 errors. These results showed that almost 10 percent of the braille code was not correctly identified by the subjects. The range, which was from none to 47 errors, emphasized the need for individual training in accuracy. On the post-test the experimental group decreased their mean number of errors by 60 percent and the control group decreased their number of errors by only 11 percent. Table 2 shows significant interaction between groups and tests as the experimental subjects increased their accuracy significantly more than the control subjects from pre-test to post-test.

TABLE 1

Distribution of Students by Reading Speed

High (113-186 wpm)

wpm	*N*	*percent*
175-186	5	5.5
155-169	3	3.3
130-144	8	8.8
113-126	13	14.3
Total	29	31.9

Medium (71-109 wpm)

wpm	*N*	*percent*
101-109	11	12.0
90-99	7	7.7
81-86	8	8.8
71-79	7	7.7
Total	33	36.2

Low (30-69 wpm)

wpm	*N*	*percent*
63-69	8	8.8
51-58	14	15.4
40-48	4	4.4
30-37	3	3.3
Total	29	31.9

TABLE 2

Analysis of Variance for Errors in Braille Code Recognition

Source	*SS*	*df*	*MS*	*F*
Between Subjects	14651.31	71		
A (levels)	14.94	2	7.47	
B (groups)	1002.78	1	1002.78	4.98**
AB	336.09	2	168.04	
Error Between	13297.50	66	201.48	
Within Subjects	3878.00	72		
C (tests)	1225.00	1	1225.00	40.22**
AC	54.87	2	27.44	
BC	536.70	1	536.70	17.62**
ABC	51.10	2	25.55	
Error Within	2010.33	66	30.46	

**$p < .01$

Accuracy and Speed Improved

☐ Training for accuracy and greater speed in the identification of the braille contractions and short-form words positively affected the rate

of reading the code symbols. From pre-test to post-test the experimental group increased their rate of recognition almost three times more than the control group. The interaction of groups and tests showed that the increase in rate was significantly greater for the experimental group in contrast to a small gain registered by the control group on the final test. The levels and tests interaction revealed the greatest significant gains to be for the low reading level, followed by the medium level, and then the high reading level.

Accuracy—17 percent better

Although the predicted significant differences on the braille code recognition tests were obtained, of greater importance was the effect such results had on the braille reading skill of these high school students. The experimental group improved their accuracy by 17 percent on the Oral Reading Test. Although this improvement was not statistically significant, it was double the improvement shown by the control group. The only statistically significant difference on the accuracy of oral reading was from pre-test to post-test. No significant interactions appeared.

TABLE 3
Analysis of Variance of Oral Reading Rates

Source	*SS*	*df*	*MS*	*F*
Between Subjects	150644.30	71		
A (levels)	88879.67	2	44439.84	50.11**
B (groups)	3107.97	1	3107.97	3.51
AB	129.74	2	64.87	
Error Between	58526.92	66	886.77	
Within Subjects	2703.88	72		
C (tests)	949.99	1	949.99	47.96**
AC	203.43	2	101.72	5.06**
BC	79.07	1	79.07	3.93
ABC	128.29	2	64.14	3.19*
Error Within	1328.10	66	20.12	

*$p < .05$; **$p < .01$

Oral reading rate—12 wpm faster

Whereas the change in accuracy of oral reading was not significant for groups or levels, Table 3 shows that training did provide statistically significant improvement in the rate of the oral reading for levels and tests. The interaction between levels and tests was statistically significant as the high reading level subjects of the experimental group demonstrated a statistically significant 12-word per minute mean improvement from pre-test to post-test. The low reading level subjects of the experimental group showed a non-significant improvement of eight wpm, while the medium reading level subjects showed only a two-wpm gain. The latter was a smaller increase than the gain shown by any of the three reading levels within the control group. Differential gain was likewise significant on the levels and groups and tests interaction.

Silent Reading Rate—30 Percent Improved

☐ The influence of the training for accuracy and greater speed in code recognition did not have any appreciable effect on the comprehension scores of the silent reading test. The mean score change from pre-test to post-test did represent a small loss for all three reading levels in both groups, but the significant gain in rate of silent reading compensated for the small loss of comprehension. The mean pre-test reading rate of

the experimental group (97 wpm) and the control group (92 wpm) approximated, within an average of five words per minute, the average reading rate (90 wpm) of braille readers in high school as cited in the literature. *With only a minimal loss in their comprehension scores, the experimental group increased its silent reading speed by 30 percent or 29 wpm. This was perhaps the most educationally significant result of the study.*

TABLE 4
Analysis of Variance of Time for the Silent Reading Test

Source	*SS*	*df*	*MS*	*F*
Between Subjects	204059.33	71		
A (levels)	166414.84	2	83207.42	201.34**
B (group)	7975.08	1	7975.08	19.30**
AB	2393.84	2	1196.92	2.90
Error Between	27275.57	66	413.27	
Within Subjects	31521.21	72		
C (tests)	13477.66	1	13477.66	62.38**
AC	431.03	2	215.52	
BC	3333.91	1	3333.91	15.43**
ABC	19.25	2	9.63	
Error Within	14259.36	66	216.05	

**$p<.01$

Improvements at Each Reading Level

☐ Table 4 reveals that a very significant improvement was achieved by the low reading level subjects of the experimental group—a gain of 62 percent in the number of words they read per minute. In fact, the training brought them to within five words per minute of the average for braille readers mentioned earlier. The medium reading level group which started out at the 90-wpm average, moved up to 120 wpm for a 33-percent gain. A 25-wpm gain was registered by the high reading level for a mean of 174 wpm. The fastest reading rate registered without any loss in comprehension was 210 wpm. The only experimental subject recording a loss in rate of silent reading improved his comprehension score by 25 percent. The 10-wpm gain by the control group may be partially attributed to practice effect and the competition felt in knowing that the experimental subjects were working to improve their speed of reading while maintaining accuracy.

Results

☐ In accordance with the stated purpose of this study, three of the six hypotheses were confirmed and a fourth hypothesis was partially confirmed. After pre-testing and a 15-day intervention, statistically significant differences were shown on post-tests in favor of the experimental over the control group in accuracy and speed on the braille code recognition test and on the rate of silent reading. The latter was accomplished without significant loss in comprehension. The high reading level subjects of the experimental group also showed statistically significant improvement in rate on the oral reading measure. Some of the change in reading rate, especially for the control group, could be considered the result of some factor other than training, e.g., variability in the subjects' efforts to read faster, even though the motivation factors were equivalent in the pre-test and the post-test situation.

Implications for Education

☐ The results of this study strongly suggest that an improvement in the reading skills of high school braille readers can result from a short

period of specifically planned lessons for rate and accuracy in braille code recognition. The materials and tests developed for this study should be used in developing additional exploratory programs for braille readers of various grade levels and abilities.

Insuring maximum reading speed

Apparently educators have erroneously assumed that a braille reader has achieved his optimum capacity for reading speed and accuracy by the time he reaches high school. Possibly because of the demands of the high school curriculum and the lack of previous research and materials, little demand or effort has been made to insure that maximum reading speed has been attained through drill in accuracy and speed in recognition of the braille code members. Some students with sufficient desire and drive do develop their own approach for increasing their reading speed, but a concentrated period of intensive instruction, such as provided in the present study, would possibly be more efficient. The progress made by the experimental subjects at various reading levels in this study suggests that many braille readers would profit from the use of similar procedures and materials.

Elementary and high school lessons

Perhaps additional braille readers could profit from an individualized and sequential program of instruction using material comparable to that developed by Henderson[8] and in the present study. The materials could be used together in the elementary grades and, after an objective appraisal and qualitative analysis of the needs of individual students, the present lessons for code recognition could be used by students in need of additional help.

Improved Code Recognition

☐ The qualitative data from the pre-test of the braille code recognition measure revealed startling deficits in correct identification of the various members of the braille code. With the exception of one subject, all others in the study made errors on the pre-test. Errors on the post-test may have been partially the result of the interest of the subjects and their attempt to improve their speed. The need for consistent instruction in reading skills is readily apparent, but the necessity for individualized instruction in accuracy and rate of recognition of the code members also appears essential for good braille reading.

Motivation is already present

The majority of the experimental subjects were enthusiastic throughout the training period and reported an increase in their reading speed on homework after being in the training sessions only a short time. Such responses may have been partially due to concentrated awareness and the desire of the subjects to increase their speed and accuracy. Individual improvement and growth were continuously emphasized. A high interest level and a positive attitude were desired and necessary to help keep the subjects interested in their task. Each subject was encouraged to obtain as much profit as he possibly could from the opportunity, the available time, materials, and individualized attention which were provided. Even though the subjects were high school students using drill materials, the level of interest was not the problem which might have been expected under the circumstances. The effects of self-improvement were continually nurtured with day-to-day prog-

ress serving as additional motivation and reinforcement. These procedures were consistent with the educational objectives of today, such as individualized instruction.

Regular evaluation of skills

Educators should give serious consideration to the need for yearly evaluation and instruction in the accuracy and rate of recognition of the braille code symbols regardless of the school grade level. Even when it appears that a student knows the code and has a respectable reading speed in braille, continued reappraisal and encouragement for improvement are recommended. The results of this study implied that after minimum instruction with specially designed materials, the speed and efficiency of the reading process can be improved for many braille readers.

Implications for Research

☐ The statistically significant results of the present study support the need for further research to improve the accuracy and increase the rate of braille reading.

1. *Follow-up studies of students who receive instruction in accuracy and rate of recognition of the braille code are necessary in order to determine whether the gains in accuracy and rate of reading are maintained, continue to increase, or regress to former levels.* The desired number of lessons and the amount of time necessary for each lesson may need to vary in order to meet the needs of individual students in the most efficient manner. Prolonged effort and encouragement may be necessary for some students. Other students may profit from less intensive instruction if given only an understanding of what can be done for self-improvement.

Test day-school students

2. Experimental studies in resource and itinerant programs and in residential schools with various approaches and attitudes toward instruction in braille would be enlightening concerning which students would receive the most benefit. In addition, the accuracy and rate of recognition of the braille symbols by day-school students who do not have teachers who are proficient in braille should be evaluated.

Longitudinal study needed

3. The pre-tests for the present study revealed that the subjects did not correctly identify approximately 10 percent of the symbols of the braille code, their medium for reading and writing. These results indicate that the present instructional programs for braille readers do not insure the necessary competency in the knowledge and use of the braille code. *A longitudinal study providing yearly evaluation and remediation in the accuracy and speed of recognition of the braille code would provide invaluable evidence for educators that such instruction is necessary and beneficial.* Specific variables could be isolated for additional study to determine individual characteristics, needs, and benefits for various reading levels, different grade levels, and for various reading problems.

4. The effects of motivation upon braille reading instruction should be investigated further. The factor of motivation, or Hawthorne effect, is of unquestionable importance.

Special lesson plans

5. More adequate means should be devised for the development of special lesson plans to deal with specific reading problems which are detrimental to speed and accuracy. With additional evidence from teachers as to the effectiveness of these materials at different reading levels,

revisions can be made which would more effectively meet the needs of individidual students. For example, special lessons should be developed to eliminate reversal problems or alignment problems. Lessons are also needed which give specific attention to the length of words and the number and position of contractions within words. Such materials could possibly use short phrases and sentences more effectively.

Programmed learning

6. The possibility of developing the special lessons on the model of programmed learning materials is also to be encouraged. Special contracts could be presented in cycles to work with particular problems such as ending problems, added dots, or errors of orthography. These materials could be presented through individual practice and the use of self-teaching machines.

Summary

☐ Increasing accuracy and speed in recognition of each member of the braille code produced significant improvement in the braille reading of high school students. These results were supportive of previous research[8] which showed that increasing the rate of identification of the 55 single-cell characters significantly increased the rate and accuracy of the total reading process of students in the elementary grades. As in the Henderson study, the present investigation showed statistically significant improvement for the experimental group on both rate and accuracy on the braille code recognition measures. The improvement on the code recognition test was anticipated because 15 days of various drill exercises on the code symbols were provided. The effect of this gain on oral reading was not statistically significant, although there was an absolute gain in both rate and accuracy in favor of the experimental group. Differential gain was noted for each of the levels, with the high reading level of the experimental group making a statistically significant gain in rate of oral reading.

More materials for high school students

In terms of the effects of the accuracy and rate gain which were demonstrated by the experimental group on the braille code recognition measure, the most relevant and important results were those on the silent reading measure. The 30-percent increase in silent reading speed with minimal loss in comprehension suggests significant educational benefits for high school braille readers. Materials which pinpoint errors in braille reading also need to be recognized, encouraged, and used effectively so that the errors can hopefully be eliminated. More extensive and refined research which will benefit braille readers needs to be conducted.

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Nevil Gallery Opens in Philadelphia

In the main building of the University Museum, Philadelphia, the University of Pennsylvania recently opened the Nevil Gallery for the Blind and Sighted, a special area in which artifacts of anthropological and archaeological interest can be examined tactually. "The Nevil Gallery is for everybody," said Ellen Schauffler, the coordinator of the gallery, when the plan was announced, "but we are especially pleased that we will have a place specifically designed for the blind to enjoy the works of other civilizations."

Volunteer guides, specially trained at the Center for the Blind in Philadelphia, are on hand at all times to lead gallery tours. A host of innovations in the layout of the gallery and in the exhibits have been included to make the individual visitor as self-sufficient as possible. The opening show is called "Wonders of the Human Head," a display of 20 sculptures of man's conception of the human head from paleolithic times to the present.

Using Video Tape in the Education of Deaf-Blind Children

LARS GULDAGER

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Because of the demonstrated usefulness of closed-circuit television in the training of teachers and in the education of children, the New England Center for the Education of Deaf-Blind Children at the Perkins School for the Blind has been exploring its use in its programs. With funds provided under Title VI-C of the Elementary and Secondary Education Act, the center recently purchased Sony half-inch video tape equipment. The decision to buy this particular system was based on its flexibility, ease of operation, and portability, in addition to the fact that it appeared that it would not be too distracting in the classroom.

Using Video Tape

☐ When it is first introduced into the classroom situation, video tape recording is naturally treated as a great novelty, a "gadget." Once the teacher becomes familiar with its use and its possibilities, however, it is soon accepted as just another one of the tools that the teacher uses. An important element in this process of assimilation is the close cooperation between the teacher and the video tape specialist. Some kind of script or shooting guide, prepared by the teacher before the taping begins, is not only necessary for the camera operator, but is also invaluable when the tape is being edited.

Experiments at Perkins

The experiments in the use of video tape carried out at the Perkins School for the Blind can be divided into two main categories: for personnel training (teacher self-evaluation, teacher training, activities of children for evaluation and for illustration purposes, and in-service training) and as a teaching aid (language development, speed reading, fingerspelling, programmed instruction, and auditory training).

Teacher Self-Evaluation

☐ It is often very difficult to improve or change a teaching technique once it becomes deeply rooted. For the teacher-in-training, therefore, the use of video tape in recording his use of a technique and in evaluating his performance is quite effective, because it allows him to correct himself little by little before he establishes a particular routine. Such recordings are useful for discussion and criticism of techniques with other teacher-trainees. For the individual who has already been teaching for some time, the same process of self-evaluation can also be quite helpful in making improvements. One teacher at Perkins taped one of her entire speech and speech reading class sessions. Afterwards she and the children viewed the tape together, with the children getting to see themselves on "television" and the teacher picking up errors that had crept into her established routine. Both the teacher-trainee tapes and those made by regular teachers can be kept on file for future reference and discussion of particular kinds of teaching techniques and problems.

Illustrating a term paper

One innovative use of video tape was demonstrated by a teach-

er-in-training last year who used it in preparing the term paper required for his Perkins diploma. In addition to his written paper on the Orff system of teaching rhythm to deaf-blind children, he made and edited taped footage of his work into one final tape which he then submitted. What might formerly have taken several pages to explain could thus be presented much more effectively in a few minutes of video tape.

Taping talks by deaf-blind persons

In order that teacher-trainees can better understand what it means to be deaf-blind and what the goals of teaching should be, it is the usual practice at Perkins each year to invite an outstanding deaf-blind person to give lectures to the trainees. Now that video taping facilities are available it is possible to record these lectures for use with future groups.

Recording Progress

☐ During the past few years, the Deaf-Blind Department at Perkins has been making audio tapes of each child's voice each year in order to have a record of progress for use by teachers and others. With the availability of video tape, it was decided to begin making recordings of not only the child's voice but his behavior in a specific situation. These tapes are very valuable in evaluating the child's progress and the success of a program or approach. In some rare cases these tapes have been shown to parents, usually to illustrate how the teachers are approaching the child who is at a certain level. Structured, organized taping of individual children for use in parent counseling has not been carried out; the emphasis in the counseling situation has remained on the relationship between the counselor and the parents. Another use of video tape that might be considered, however, is recording the interaction of the parents and their child to provide a more objective basis for discussion between the parents and the parent-educator.

Building and Using a Taped Collection of Behaviors and Syndromes

☐ One of the most ambitious projects in the use of video tape that Perkins and the New England Center have embarked upon is the building of a comprehensive collection of tapes illustrating the many different behaviors and syndromes found in deaf-blind children and the various techniques and approaches used in their education. The uses of such a collection are practically limitless. First, tapes made so far have been used by Perkins lecturers in presenting material to teacher-trainees. Video tape was used during the three-day seminars held at Perkins for those involved in teaching non-verbal communication, prelanguage development, and so on to the parents of deaf-blind children. Although Perkins does not have a specific in-service training program in its Deaf-Blind Department, tapes have been shown during teachers meetings and in meetings with assistant teachers. These tapes have also been used during the in-service program for child-care workers in helping them to understand the children better and to improve the coordination of after-school activities with the school program. In each of these examples, the use of video tape recordings has not only allowed for the presentation of material that is often difficut or impossible to communicate adequately through words alone, but also made it possible to present a great deal of material in a very short time, material which had taken the staff several months to collect.

Uses in professional education

In the future, video tapes could play a considerable role in seminars on the subject of the education of deaf-blind children for all types of professionals. For example, plans have already been made to combine the tapes made at Perkins with tapes of children in other school settings (such as classes for the aphasic or classes in state facilities for the mentally retarded). These would provide a valuable introduction to the various types of children, the setting in which they are treated, and the techniques used with them. An even more important project would be the use of video tape recordings made at schools and facilities throughout the nation in order to develop homogenous evaluation criteria for deaf-blind children and to establish program standards.

Language Development

☐ One of the most difficult things for a deaf-blind child to grasp is the use of symbols. Since pictures or drawings are often used to help the child understand symbols and since the majority of deaf-blind children have enough vision to follow action on a television monitor, it is clear that video tape recordings can be a very important tool for the teacher. It should be remembered, however, that video tape should not be used when the thing that is portrayed can be brought into the classroom. Similarly, such recordings should not be used to replace the teacher or when the primary goal is merely to utilize the equipment.

Recording trips and outings

The introduction of symbols to deaf-blind children as a part of the language development program in the Deaf-Blind Department at Perkins is facilitated by taking the children to airports, fire stations, stores, and so on. Typically, these trips are carefully planned beforehand so that they can later be discussed and the use of language and symbols built around the real experience. By recording the trip on video tape, the children can rediscover the event and specific vocabulary reviewed. Formerly it was very difficult for the children to associate what had happened on the trip the day before with what was being discussed in the classroom. Slow children especially benefit from a video tape replay of an event or experience.

Presenting new concepts

New concepts can also be presented to children once they reach a level at which they can grasp such abstractions. With children at the beginning levels of language development, of course, the real item or experience should always be introduced to them before a substitute or symbol. Special events, situations, and activities both at the school and off campus are being taped for later use in language development. Tapes made and used for this purpose so far include ones on rain, a baby bird, kite day at Perkins, the wind, trimming trees, a car wash, and cooking. In most of these, the children can find at least one or two familiar things in the tape. Consequently, they both show more interest and are more motivated to discuss the subject of the tape. A similar project is the video taping of specific situations to which a child might need to be introduced or re-introduced, for example, the doctor's office or the dentist's. When the need arises, then, the teacher and child can view the tape together and discuss the event in advance. Plays and other kinds of acting out that are now a regular part of the Perkins curriculum are also taped for later viewing and discussion by the children.

Speech-Reading

☐ One of the very difficult tasks faced by deaf-blind children is the learning of speech-reading. Since the child learns speech-reading as a part of the very close relationship that he has with his teacher and with house personnel, he is quite limited in the number of different individuals with whom he can practice. To help alleviate this situation, one of the older students was asked to prepare a five-minute talk on what he had done the week before and to tell it to the video tape camera. The tape was then shown to the rest of the class who were asked to lipread the story and answer five questions about the story posed by the teacher. This experiment was so successful that plans have been made to tape a 10-minute program in which a variety of people on campus, including individuals well-known, slightly known, and unknown to the children, would speak. It should be pointed out that in many cases the children can learn to operate the video tape playback equipment by themselves, freeing the teacher and assistant teacher for other duties and allowing the student to use specific tapes, like the one on lipreading, whenever he wants to practice a skill or to refresh his memory.

Finger-spelling

An experiment similar to the one involving speech-reading was also conducted for practice in finger-spelling. Several words, some of which were familiar to the child and some not, were taped and played back to him. He was then asked to respond to the finger-spelled words by finding the appropriate written word.

Programmed Instruction

☐ We have also experimented with the use of video tape in programmed instruction. One of the children was taped while walking from the classroom building to his cottage. During the walk certain items, such as a fire hydrant, a tree, the sidewalk, etc., were focused upon. Later, while he viewed the tape, he was asked to react to certain questions or to form sentences in a structured way. The tape was produced in such a way that the child was given some time after each question when the screen was blank. After responding, he could immediately see the answer on the tape. It should be stressed again that the child can usually operate the machine himself. One girl in particular was very interested in carrying this out on her own.

Auditory Training

☐ We have not had time as yet to experiment with the use of video tape in auditory training, although clearly many of the tapes already made for other purposes could probably be used in this way. The chief advantage of video tape for auditory training is the versatility of the equipment, that is, the audio and video portions can be presented either simultaneously or separately. A specific tape for auditory training, however, is being planned. A group of children will go to the town square in the neighborhood of the school where such sights and sounds as cars and trucks passing, a bell at a pedestrian crossing, a mechanical street sweeper, road builders, and a policeman and his whistle, will be recorded on video tape. Since the tape is for auditory training, every effort will be made to have the sound and the picture appear at the same time. Such a tape could be used at several levels of instruction, for example, at first, the child could be tested after both the sound and the picture are played back; then, he would be asked to identify the

source after only hearing the sound. Later on as training progresses, the picture alone could be presented and the child asked to select the proper sound from a group of sounds. Responses could be made either with pencil and paper, if the child is working alone, or through finger-spelling or the spoken word to a teacher.

Multi-media presentations

In addition to these areas of use with which Perkins had experimented, video tape could also play a role in any multi-media educational presentation. With sufficient planning in advance to give the media specialists the time necessary to play and record segments, video tape can easily be used in combination with 8mm film cartridges, slides, and tape recorders to form a complete and very effective multi-media program.

A Final Word

☐ One final word regarding the making of video tape programs for use in the education of deaf-blind children: the initiative for preparing tapes and in using them should come from the teacher and not from the video tape specialist. The teacher is the one who is in close contact with the children and only he knows their particular needs and capabilities. The teacher, therefore, must supervise the making of tapes and their editing for presentation in the classroom.

Exchange of information

We at the New England Center-Perkins School are confident that, based on our first year of experience in using video tape, others will also find it to be a quite valuable new educational tool. Communication between the different centers for the education of deaf-blind children throughout the nation on the uses of video tape will undoubtedly result in many improvements in services and in greater uniformity. Video tape also provides an efficient and quick way for the centers to exchange information on new techniques and new kinds of programs. Toward this end, the Perkins School is planning to edit some of its tapes into programs on specific topics and to make these available to all of the other regional centers.

Counselor Testing Kit Available on Cassettes

A self-instructional short course entitled *How to Select, Administer and Interpret Psychological Tests,* by Dr. Joseph Moriarty, is available both in an inkprint edition ($3.00) and on a set of tape cassette recordings ($10.00). Written especially for rehabilitation counselors, the text includes specific instructions for using the Wide Range Achievement Test, Revised Beta, Slosson, Minnesota Counseling Inventory, Sixteen Personality Factor, Kuder Vocational Interest, Picture Interest, Bennett Mechanical, and the General Clerical Test. Either edition may be ordered from the West Virginia Rehabilitation Research and Training Center, Institute, West Virginia 25112.

The Severely Visually Impaired Population as a Market for Sensory Aids and Services: Part One

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Editor's Note: After many months of consultation with a number of eminent and knowledgeable persons and organizations, the American Foundation for the Blind announced last October that it would begin developing a program to evaluate promising prototypes of technical appliances, many of which have remained at the laboratory stage for lack of commercial interest in their serial production, and possibly to support such production. In January, it was announced that Louis H. Goldish of Concord, Massachusetts, had been appointed director of AFB's new Sensory Aids Analysis and Development Program.

In this article, Mr. Goldish presents the findings of the recently completed first stage of his intensive review of the sensory aids question—a profile of the potential "market" for particular devices among visually handicapped persons and the institutions serving those persons. From time to time, as the project continues, the New Outlook *will be publishing further reports by Mr. Goldish dealing with practical information about specific areas of technological research and available items.*

Providing services to blind persons in the United States is a major industry: approximately one-half billion dollars per year is spent on support, services, and devices for the blind.[1] Over 800 separate agencies and organizations provide assistance and services to blind persons.[2] Hundreds of research programs have been organized to study their characteristics and to develop sensory aids and devices for them.

Yet, for all its organization, the blindness system is not quite sure just how well its "customers" are being served. How many might utilize talking book services if more people knew about them? How many might use a laser cane if one were commercially available? What is the demand for large print materials? What portion of the visually impaired population is in need of services? Indeed, how many "blind" persons are there?

Available Statistics

☐ Many statistics on the visually handicapped population are available. These include: 1) limited sample studies conducted by research groups, individual researchers, and service organizations; 2) statistical estimates prepared by the National Society for the Prevention of Blindness and other agencies; 3) the Model Reporting Area for Blindness Statistics administered, until recently, by the National Eye Institute; and 4) survey and examination data collected by the National Health Survey. Articles on the demography of blindness, however, usually point out the limitations of these statistics. In most cases, the survey methods, the types of questions asked, and the visual examinations (where giv-

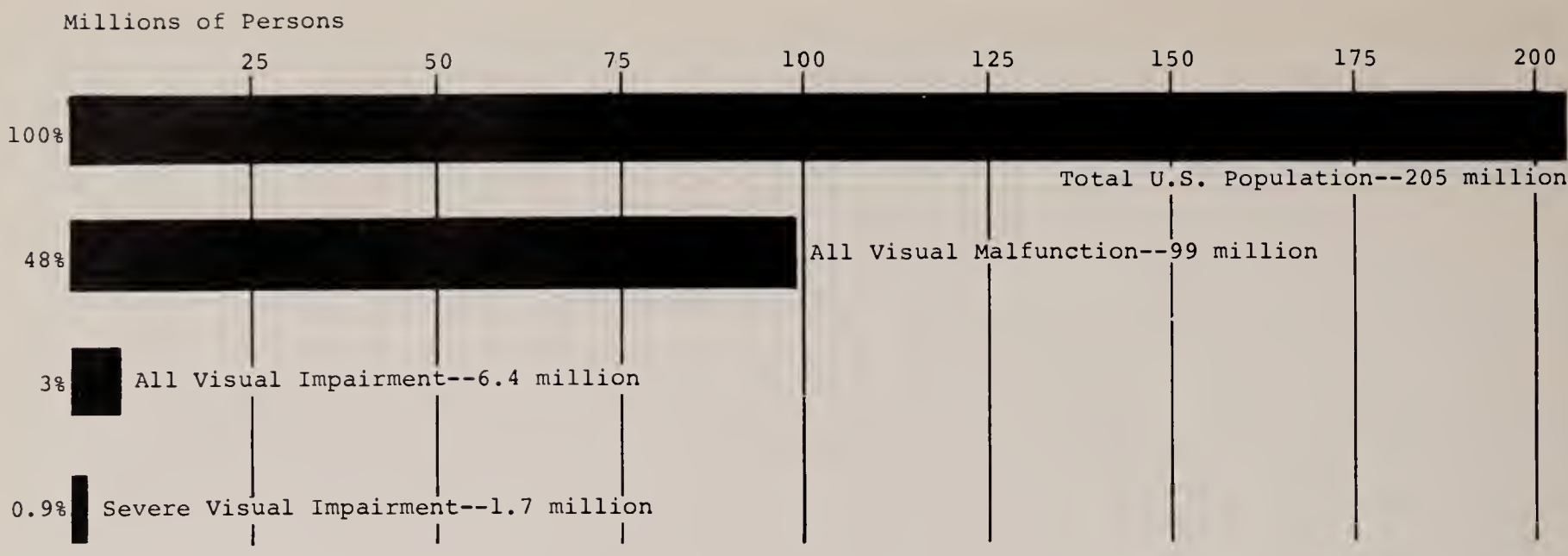


FIGURE 1
Estimated Number of Persons With Visual Problems in the United States, 1970

en) have not been as rigorous as demographers would like. As a result, much of the existing statistical data is deemed inconclusive. The statistics most commonly accepted have been those of the National Society for the Prevention of Blindness, including its estimate of the total number of cases of "legal blindness" in the United States as 437,000 in 1970.[3] The National Health Survey estimates that in 1965 approximately 1.2 million persons could not "read ordinary newsprint even while wearing glasses."[4]

Abundant data

While many within the blindness system decry the lack of adequate statistics, data on visually impaired persons are considerably more abundant and more relevant than those on many other "markets." Some of the study samples of the visually impaired population feature significant data bases, and one study or another has treated the more important characteristics of this group. In fact, taken as a whole, the existing surveys of visually impaired persons appear to provide an adequate basis for at least an initial estimate and profile of that population.

The Present Report

☐ This report presents estimates of the visually impaired population in specific categories, such as, total number of persons, age, visual ability, and major activity. The data are based upon practically every significant statistical study of the visually impaired population in the United States performed in the last 15 years. The studies have been contrasted, compared, and organized so that data on particular aspects of the population as developed in separate studies could be combined into a meaningful profile of the overall population. (The references, the method of analysis, and the estimates and assumptions made are available for examination by interested parties.)[5]

A highly varied market

Visually handicapped individuals differ widely in their characteristics, their needs, and their ability to take advantage of specific devices or services. Consequently, it is in no way valid to assume that the total visually impaired population is a potential market for a particular sensory aid or service. Indeed, a device or service is usually suitable for only a seg-

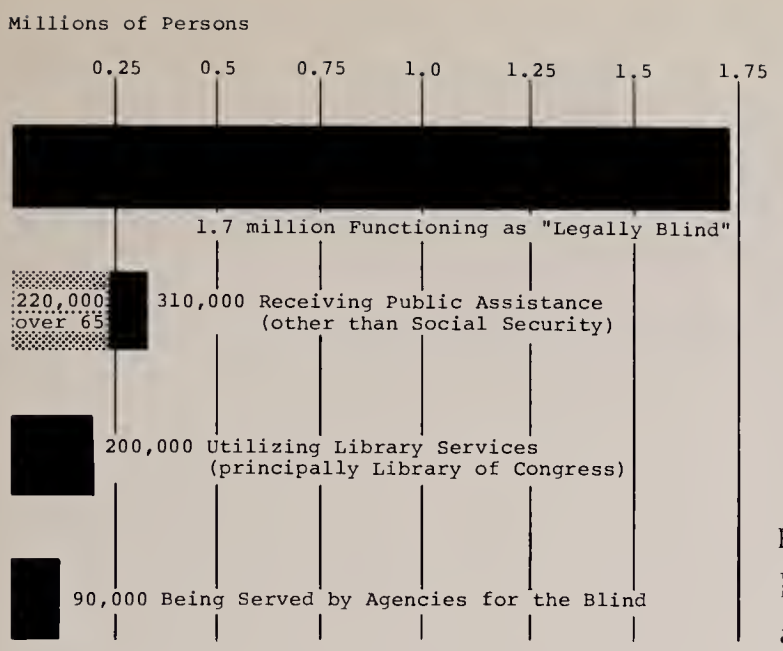


FIGURE 2
Estimated "Known" Blind and Services Utilized

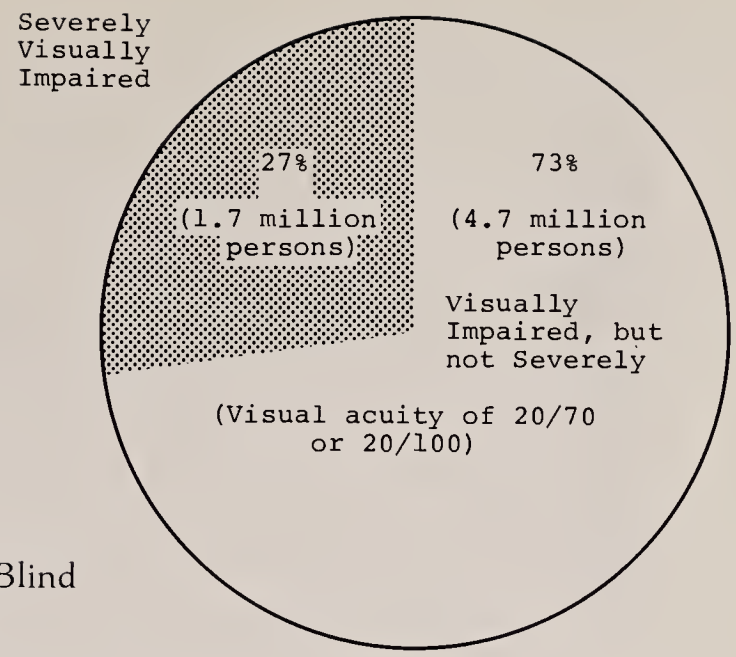


FIGURE 3
Estimated Distribution of Visual Impairment by Degree of Severity

ment of the total population, and it is likely that only some fraction of this segment will actually use the device or service.

Organizations developing or wishing to offer sensory aids to visually handicapped persons require even more detailed market data. Information on the number of those in need, their characteristics, and the extent to which they might use a particular aid or service is necessary so that resources can be allocated to areas of greatest need, so that the developers of devices with limited application realize that fact, and so that duplication of effort can be avoided if such duplication is not warranted. Already, many worthwhile, commercially-available sensory aids are not being utilized because of insufficient appeal or because of "under-marketing." For this reason, subsequent reports will provide information on segments of the population to which particular devices and services might appeal (braille readers, mobility device users, actively employed, etc.) and on the potential for the devices or services.

Definitions of Blindness

☐ While the use of the "legal definition of blindness,"[6] essentially a visual acuity number, has somewhat simplified the administrative aspects of service to visually handicapped persons, the types of aids and services required depend largely upon the extent to which the individual's visual function is impaired rather than on acuity numbers. Indeed, the visual acuity number is affected by the manner in which the vision examination is given and, in fact, may vary from examiner to examiner. On the other hand, authorities indicate that there is a very rough correlation between visual functioning and ranges of visual acuity numbers. For this reason, the following definitions combining visual ability and visual acuity have been used for this report: *Visual Malfunction*—wearing of corrective lenses. *Visual Impairment*—"trouble seeing," even with usual corrective lenses, if used. (This appears to be roughly equivalent to a "corrected" binocular or better-monocular distance visual acuity of approximately 20/70 or less.) Also included is impairment of one eye. *Severe Visual Impairment*—"blindness," "legal blindness," or reported "inability to read newsprint" even with usual corrective lenses,

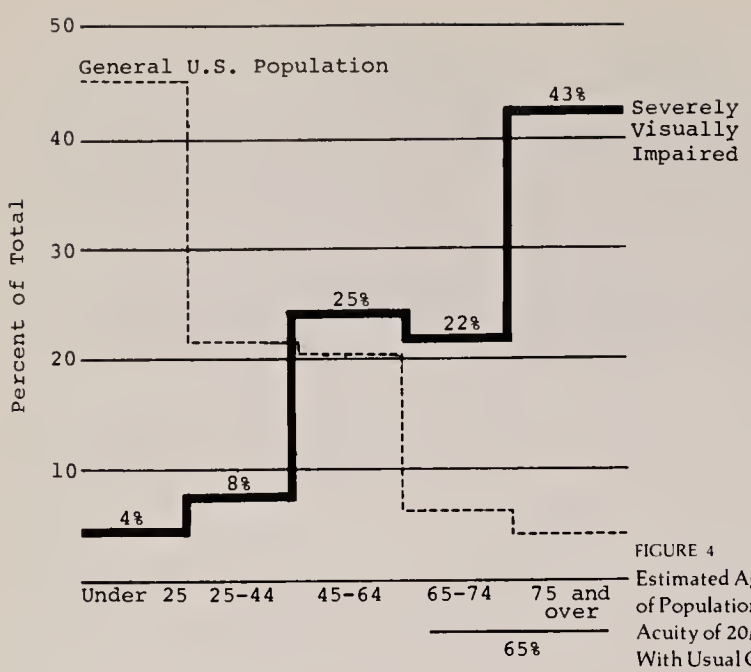


FIGURE 4
Estimated Age Distribution of Population With Visual Acuity of 20/200 or Less With Usual Correction

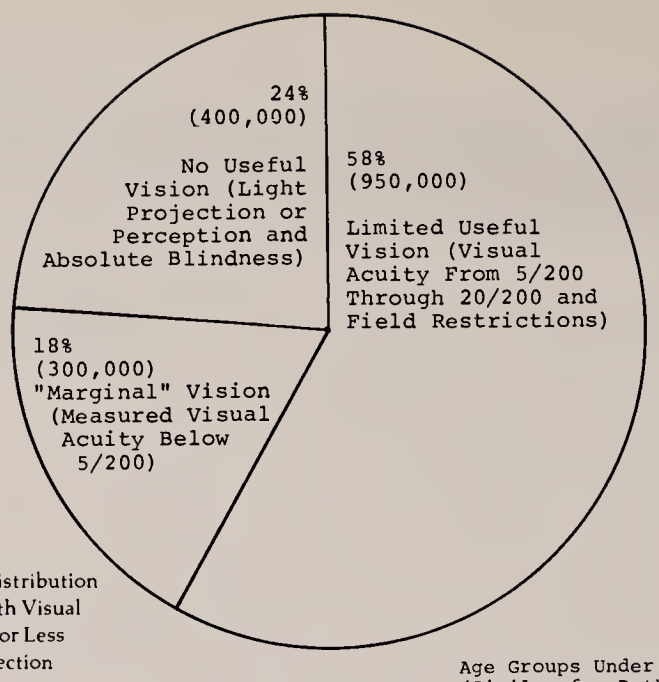


FIGURE 5
Estimated Distribution of Persons (Age Five Years and Above) With Visual Acuity of 20/200 or Less by Visual Ability

if used. (This appears to be roughly equivalent to a "corrected" binocular or better-monocular distance visual acuity of approximately 20/200 or less.) Almost half the population of the United States has a visual malfunction which requires at least the wearing of glasses. Yet, the number of persons who are visually impaired to the extent that they might have even a remote need for sensory aids or services for the visually handicapped is small. Fewer than one percent of the U.S. population—approximately 1.7 million persons—appear to function at the level of severe visual impairment with usual correction (Figure 1).

The estimate of 1.7 million severely visually impaired persons in the United States is, of course, considerably larger than the commonly used estimates of approximately 400,000 to 500,000. These differences result from two factors. First, the lower estimates refer to visually impaired persons whose visual acuity is within the definition of "legal blindness."The higher figure includes all those whose present visual functioning is similar to that of a legally blind person. While the administrative defintion of legal blindness refers to "best correction," few people probably have best correction; in fact they may not even have good correction. Better eyeglasses or lens-type devices and training in efficient usage of impaired vision may remove a significant number of individuals from the category of severely visually impaired. Nevertheless, from a service point of view, such persons have severe impairments until such time as proper aids or treatments are prescribed, and they should be included among the severely impaired.

Second, and more significant, there is reason to believe that the commonly accepted estimates of the "legally blind" are grossly under-reported, particularly in the higher age brackets. The extent of this under-reporting is dramatically revealed by the fact that the number of legally blind individuals receiving public assistance—approximately 310,000—is almost as large as the commonly accepted estimate for the total legally blind population.[7]

In this broader context of severe visual impairment, the magnitude of the job facing the blindness system in reaching severely visually im-

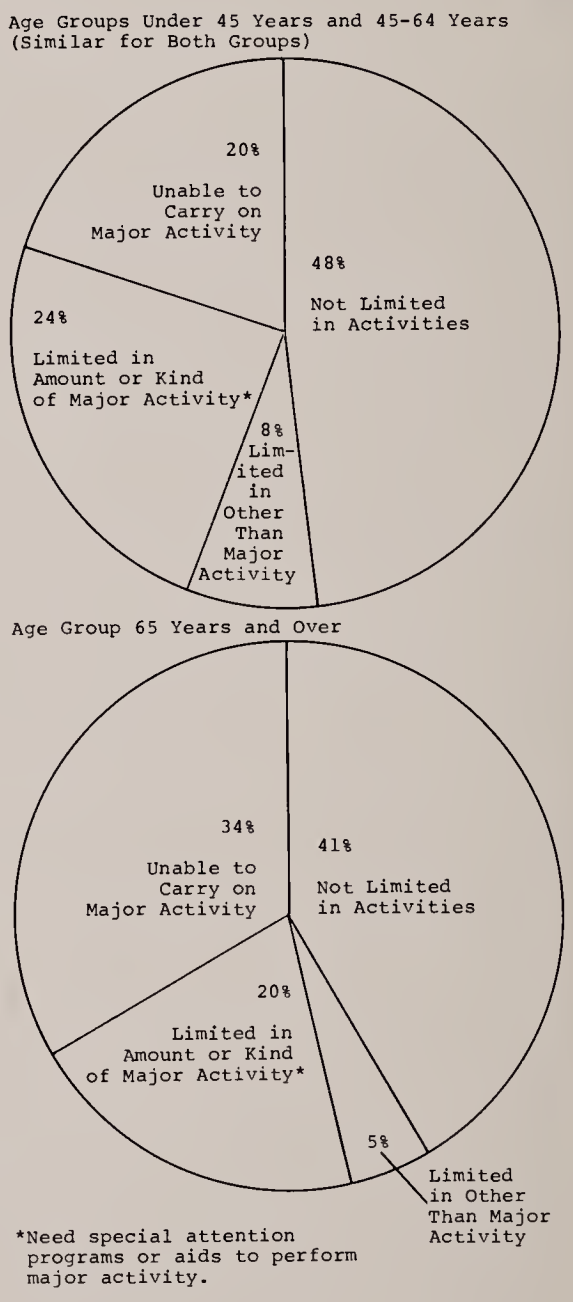


FIGURE 6
Extent of Activity Limitations Caused by Severe Visual Impairment

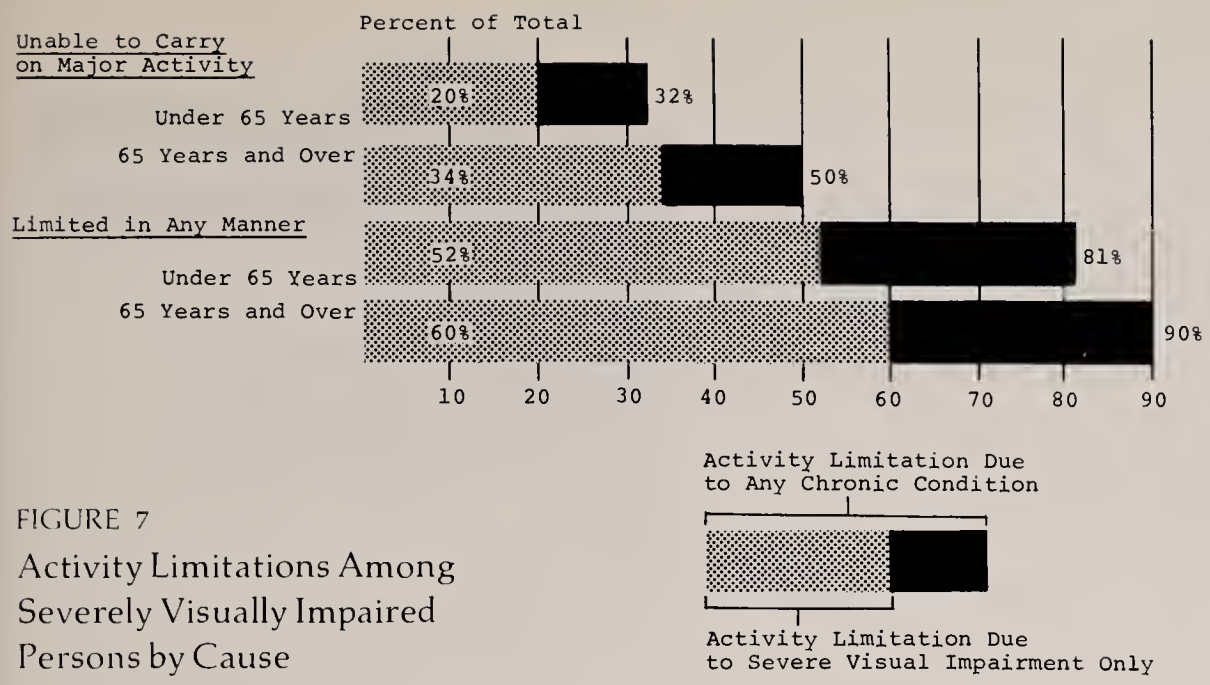


FIGURE 7
Activity Limitations Among Severely Visually Impaired Persons by Cause

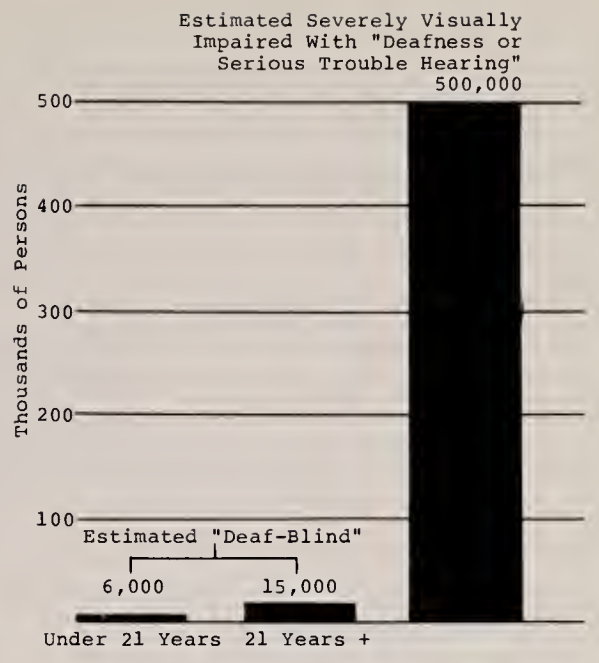


FIGURE 8
Estimated Number of Persons With Severe Visual Impairment and Some Type of Hearing Impairment (Deafness is but one of the many impairments which may accompany blindness.)

paired persons is considerable (Figure 2). Only 10 percent of those with a severe visual impairment are taking advantage of services, other than support, offered by the blindness system, and the bulk of these are utilizing only library services. Even fewer are being served by agencies for the blind. While it is probable that a significant portion of the 1.7 million persons who function as legally blind may neither require nor desire the services of the blindness system, a considerable amount of effort on the part of the system is still necessary to reach those who might take advantage of its services.

Aids and services are required to a greater extent by those with a severe visual impairment than by those whose vision is impaired but not severely, and providing aids and services to the severely impaired does offer significant challenges. Nevertheless, the number of persons whose vision is less impaired is almost three times that of the severely impaired group (Figure 3). The larger size of this less impaired group, and the possibility that its problems can probably be alleviated more easily than those of the severely impaired group, seems to indicate that additional emphasis on aids and services to the less impaired may be desirable as well.

The less impaired group

Characteristics

☐ The need for particular aids or services, the desire to utilize them, and the suitability of the aids or services to a visually impaired individual depend, to a great extent, upon his visual capability (no useful vision, marginal vision, limited useful vision, considerable useful vision), extent of impairment (visual only, multiple, infirm and impaired), level of activity, level of independence, status (preschool, student, housekeeper, employed, unemployed, retired, institutionalized), economic status (adequately supported by family, adequately supported by personal earnings, receiving public assistance, inadequate support), and contact with service agencies. One of the principal considerations in serving the severely visually impaired population is that, unlike the general U.S. population, the visually impaired are principally older individuals. Approximately 65 percent of the severely impaired—over one million persons—are 65 years of age or older (Figure 4). Also,

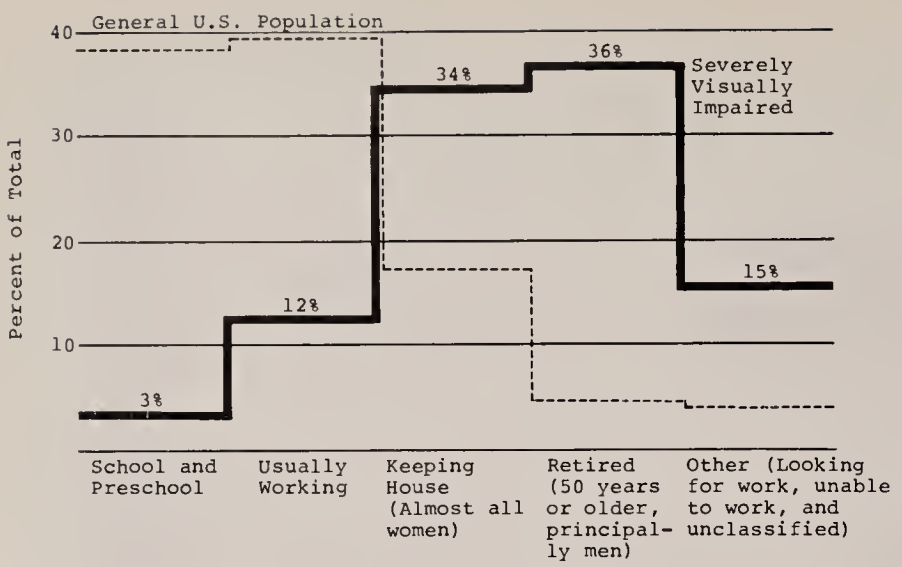
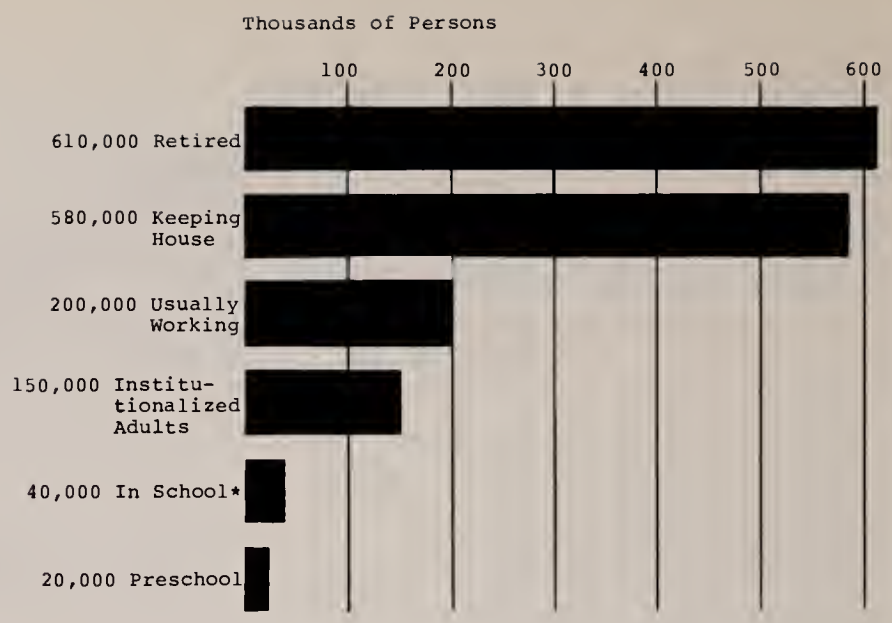


FIGURE 9
Estimated Distribution of Severely Visually Impaired Persons by Major Activity



*Includes an Estimated 3,000 College Students.

FIGURE 10
Estimated Number of Severely Visually Impaired Persons by Principal Status/Activity

despite the connotation of "blindness" as a total absence of vision, almost 60 percent of the severely impaired have useful vision, however limited (Figure 5). Indeed, many severely visually impaired individuals may consider themselves ineligible for the aids and services offered or may be avoiding the blindness system because they do not consider themselves blind. Actually, fewer than 25 percent of the severely visually impaired have no useful vision at all.

Limitations on activities

Between 40 and 50 percent of the severely visually impaired population have virtually no limitation on their activities. Only 20 percent of those under 65, and only one-third of those over 65 are unable to carry on their major activity because of severe visual impairment (Figure 6). Even among the severely visually impaired whose activities are limited, many of the limitations result from chronic conditions in addition to the visual impairment rather than from the visual impairment alone (Figure 7). Thus, the ability of a visually impaired person to utilize a particular device or service may be limited by other chronic conditions.

Deaf-Blind Persons

☐ There is a major concern for those with multiple impairments, particularly deaf-blind persons. As with estimates of the total visually impaired population, commonly accepted estimates of the deaf-blind population appear to understate significantly the number of individuals who are both severely visually and aurally impaired (Figure 8).

Visually impaired persons in the labor force

Unlike the general U.S. population, only about 12 percent of the severely visually impaired—about 200,000 persons—are in the labor force, and only three percent—approximately 60,000 persons—are in school or of preschool age (Figures 9 and 10). Most of the severely visually impaired individuals either keep house or are retired. To a great extent, this is a manifestation of the large number of elderly persons in the population. In addition, a much smaller proportion of the severely visually impaired persons than of corresponding groups in the general population are in the work force (Figure 11). This indicates the magnitude of the task still faced by vocational and rehabilitation services for visually impaired persons.

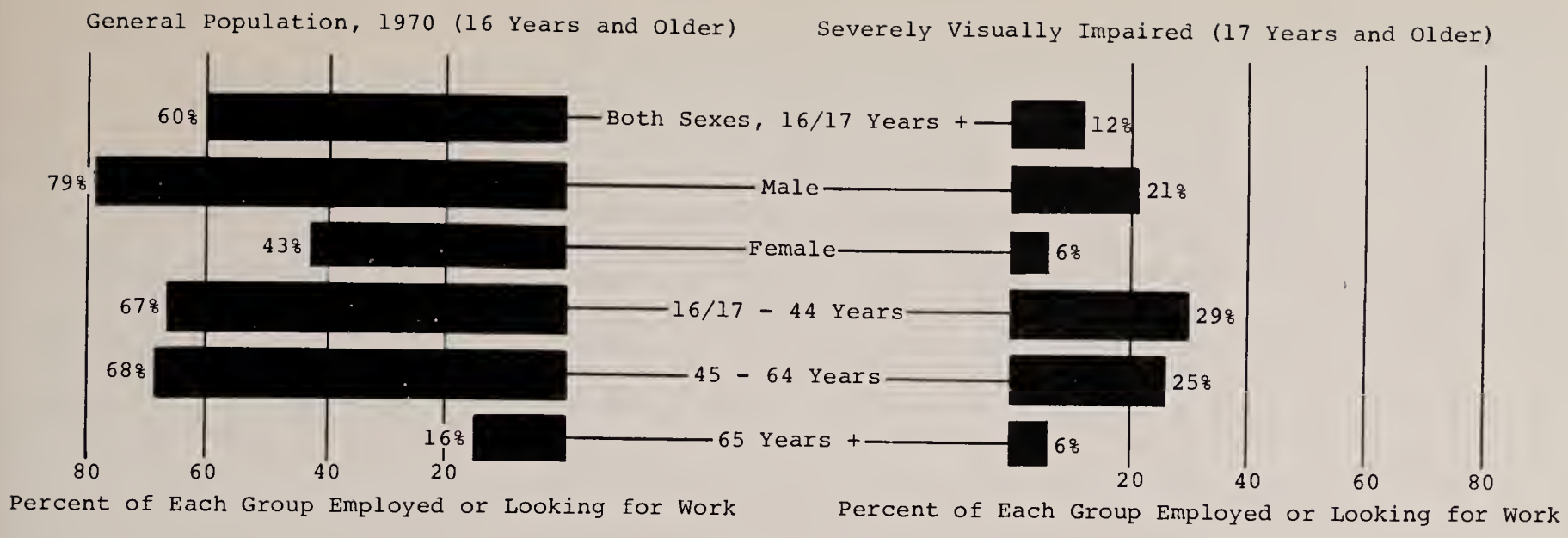


FIGURE 11
Estimated Percent of Population in the Labor Force: Severely Visually Impaired vs. General Population

Although the economic status of the severely visually impaired population is lower than that of the general population, principally because of the greater number of elderly persons, their "buying power" is augmented by family, institutions, and service agencies (Figure 12). The sales pattern of the Aids and Appliances Division of the American Foundation for the Blind is a dramatic example of the effect of this buying power augmentation. Sales increase significantly during the Christmas/Hanukah gift-buying season (Figure 13). This is likely a result of relatives and friends purchasing gifts for visually impaired individuals. In addition, larger mailings of catalogs—almost all of which are in inkprint—appear to have caused corresponding increases in sales. Similarly, over half of the users of the services provided by the Division for the Blind and Physically Handicapped, Library of Congress, first heard about those services from friends or relatives.[8] This indicates that reaching the sighted friends and relatives of visually impaired individuals may be a very effective method of increasing awareness of the aids and services available to visually impaired persons.

As a service industry dedicated to improving the functioning of visually impaired persons, the blindness system must make a concerted effort to reach those who can benefit from it, whether directly or through others. In addition, it is necessary that those within the system, or those wishing to provide materials or services to the system, be aware of the numbers and characteristics of the people that the system is serving. The efforts and resources of the system can then be directed most efficiently to those who need them.

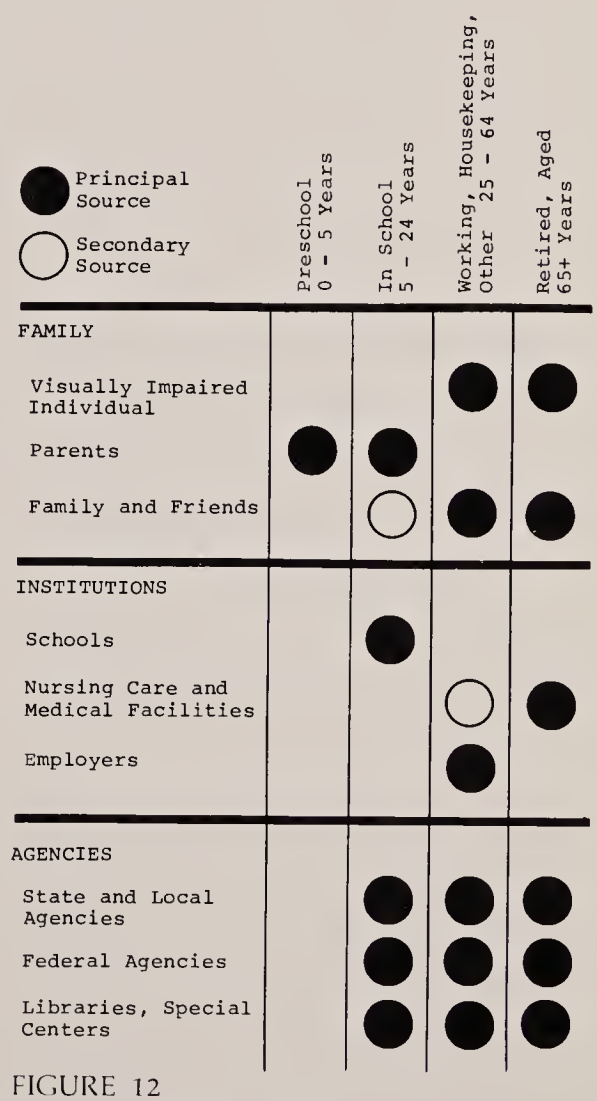


FIGURE 12
Sources of "Buying Power" for the Visually Impaired by Age-Activity

References

1. *Blindness and Services to the Blind in the United States* (Cambridge, Mass.: OSTI Press, 1971), p. 35.
2. Robert A. Scott, *The Making of Blind Men* (New York: Russell Sage Foundation, 1969), p. 66. This figure does include both agencies and organizations *and* their branch offices. Excluding such branches, it is estimated that there are between 400 and 500 agencies and organizations.
3. "Estimated Total Cases and New Cases of Legal Blindness by State, 1970" (preliminary), National Society for the Prevention of Blindness, New York.

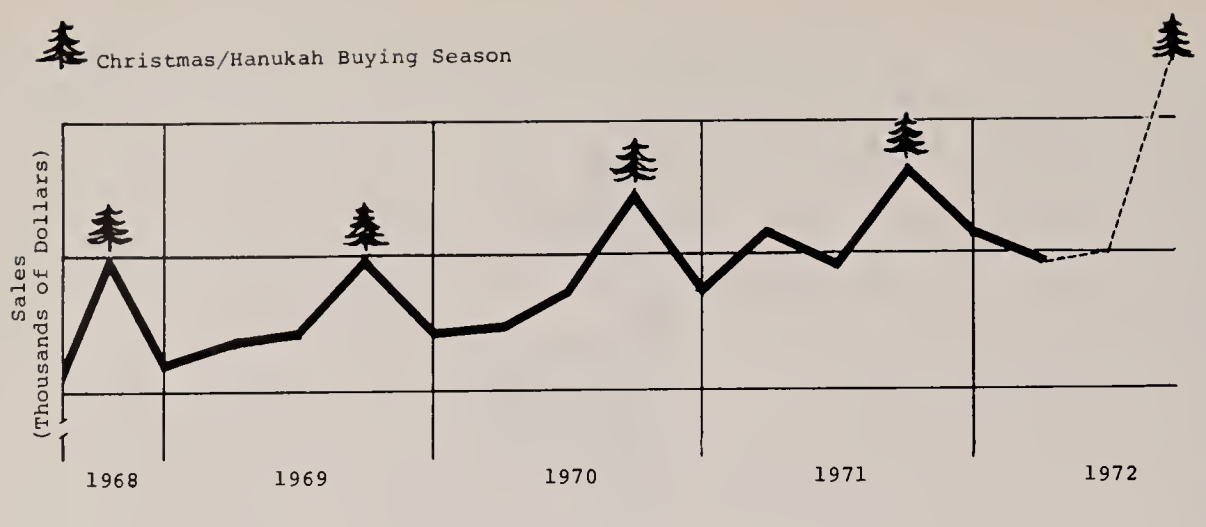


FIGURE 13
Quarterly Sales of AFB Aids and Appliances, Fiscal 1968-Fiscal 1972

4. *Prevalence of Selected Impairments, United States, July 1963-June 1965* (U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics Series 10, No. 48).
5. Statistical studies utilized for the profile include:
   Estimated Statistics on Blindness and Vision Problems. New York: National Society for the Prevention of Blindness, 1966.
   Goldstein, Hyman. *Blindness in the USA: Some Demographic Considerations* (unpublished draft, 1971).
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   Josephson, Eric. "A Pilot Study of Visual Impairment." In *Proceedings of the Symposium on Research in Blindness and Severe Visual Impairment.* New York: American Foundation for the Blind, 1964.
   Josephson, Eric. *The Social Life of Blind People.* New York: American Foundation for the Blind, 1968.
   Statistics on Blindness in the Model Reporting Area 1968. U.S. Department of Health, Education, and Welfare, National Eye Institute.
   Studies in the National Health Survey Series dealing with visual impairment (Series B-9, B-35, 10-46, 10-48, 10-53, 10-61, 11-1, 11-3, 11-25, 11-28, 11-30, 11-101, 12-2, 12-3, 12-8, 12-in preparation). U.S. Public Health Service, National Center for Health Statistics.
   Trouern-Trend, Kenneth. *Blindness in the United States* (final summary report to the National Institute of Neurological Diseases and Blindness). Hartford, Conn.: Travelers Research Center, 1968.
   In addition, numerous other studies, papers, and statistical sources were used.
6. "A person shall be considered legally blind whose central acuity does not exceed 20/200 in the better eye with correcting lenses [best correction] or whose visual acuity is greater that 20/200 but is accompanied by a limitation in the field of vision such that the widest diameter of the visual field subtends an angle of no greater than 20 degrees."
7. Memorandum from Irvin P. Schloss, legislative analyst, American Foundation for the Blind, February 16, 1972.
8. Nelson Associates, *A Survey of Reader Characteristics, Reading Interests, and Equipment Preferences: A Study of Circulation Systems in Selected Regional Libraries* (New York: Nelson Associates, Inc., 1969), Table 74.

Comment

The Impact of Blindness on Personality

William Dauterman, M.A.

In his article "The Personality of the Blind: A Non-Valid Concept" (*New Outlook*, February 1972, pp. 33-37, 42), Emerson Foulke, Ph.D., correctly refutes what he considers to be a current personality theory. If it is true that the present generation of trained workers are thinking and using such an antiquated concept as "the personality of the blind," it is a discouraging finding after the large amount of money spent by the U.S. Department of Health, Education, and Welfare in an effort to staff rehabilitation agencies with professionally competent personnel. In fact, the present author does not share Dr. Foulke's assertion that such concepts are commonly held by a significant number of competent workers.

The attribution of the notion of the death of the sighted person and his rebirth as a blind person as a necessary phase in the rehabilitation of severely disabled persons to the Rev. Thomas J. Carroll is also inaccurate. Carroll acquired the concept from Louis S. Cholden, M.D., with whom he had a close relationship—beginning when both participated on a panel at the 1953 convention of the American Association of Workers for the Blind. Cholden's papers appeared in various journals from 1954 until his death on April 26, 1956; these were published in book form by the American Foundation for the Blind under the title, *A Psychiatrist Works With Blindness* (1958). Father Carroll continued to use and elaborate Cholden's concepts in his many public appearances and writings and popularized the basic concepts in his book, *Blindness: What It Is, What It Does, and How to Live With It*, published by Little, Brown and Company (1961).

Neither Cholden nor Carroll claim to have originated the death-and-rebirth concept or to limit its applicability to the loss of sight. Cholden specifically commented in his 1954 paper, "Some Psychiatric Problems in the Rehabilitation of the Blind," that "reaction depression" is well recognized as a mourning phenomenon which everyone experiences following the loss of a loved object and as an emotional state with which psychiatry and other professional disciplines have had much experience.

Both Cholden and Carroll carefully avoided the implication of any such idea as "the personality of the blind." Cholden, in the paper just cited, and Carroll, in Chapter Seven of *Blindness*, specifically elaborated on the dynamics of human personality and how the occurrence of blindness is similar to, if often greater than, the numerous events occurring in life that require a readjustment of the individual to changed circumstances and new modes of adjustment. They both also emphasized the importance of understanding the normality of the process involved and the variations in modes of adjustment to crisis situations. Their theses are based on the basic concept of individual differences, premorbid personality configuration, and the impact of the social environment in the formulation of personality characteristics and change.

Thus given the wide variety of personality differences which are found in any cultural milieu, there cannot be a single mode of adjustment which would result in anything comparable to a personality type which is characteristic of persons who are blind. This does not preclude the occurrence and recognition of discrete behavioral patterns common to many individuals who happen to lose their sight and encountering similar environmental influences which magnify such basic characteristics as high degrees of dependency, ego strength, and impaired self-image, any one of which may be compensated for by exaggerated behavior patterns.

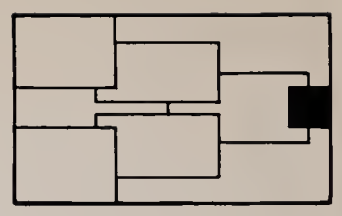
While Dr. Foulke accepts the notion that personality "must refer to relatively stable patterns of behavior," he seems to have great difficulty conceptualizing the emotional aspects of human existence and their influences on observable behavior. His information-processing model is an extremely useful device for understanding certain aspects of learning, retention, and coping. However, it does not seem to deal with the basic problems of readjustment on the affective level and thus leaves out a major component of an acceptable theory of personality.

Mr. Dauterman was recently rehabilitation coordinator at Casa Colina Hospital for Rehabilitative Medicine, Pomona, California.

"Comment" is a new department in the New Outlook, *one which has been established to expand the "impartial forum" aspect of the journal. As contrasted with the short items of correspondence involving corrections, additions, and clarifications that are published as "Letters to the Editor," a "Comment" piece gives the contributor a somewhat lengthier format in which he may express his own point of view, present new information or findings, or raise issues. Submissions for "Comment," which should be 350-1,000 words in length and are subject to the same standards of acceptability that are applied to articles, may be in response to material published in the* New Outlook *or a presentation of any new ideas or issues which relate to the specialized field of work with blind and visually handicapped persons.*

The Editors

Special Guest Editorial



Let's at Least Read It

Harold G. Roberts, author of this editorial, is associate director for service, American Foundation for the Blind.

A new social disease entity, commonly referred to as a "credibility gap," has emerged in recent years. And the prime cause of this condition is the withholding of information or the lack of full disclosure. A classic example is found in *Blindness and Services to the Blind in the United States,* the so-called OSTI Report.

In July 1967, the Ad Hoc Subcommittee on Rehabilitation of the National Institute of Neurological Diseases and Blindness (which later became the National Eye Institute and the National Institute for Neurological Diseases and Stroke) commissioned the Organization for Social and Technical Innovation, Inc. (OSTI), a private research organization of the kind often described as a "think tank," to conduct a study of "blindness, its prevention and management, including rehabilitation."

Although the study was completed and the report ready for presentation in June 1968, publication was withheld (for a variety of reasons not fully clear) until the Fall of 1971. This hiatus of more than three years has resulted in a ground swell of negative reactions. It has been interesting to observe this response. As one moved through professional circles in our specialized field of service, one invariably encountered acerbic criticism and heated debate, even though the report could not at that time have been read by its critics.

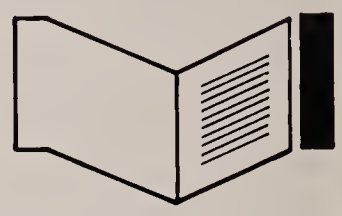
Now that the OSTI Report is available* and the dust is settling, the time has come for serious study and sober appraisal. As described in the report's preface, the study is a serious effort at a systematic analysis of our specialized field in order to facilitate decision-making by leadership personnel for both immediate and future action.

Most of the key problems identified have long been recognized, including the fragmented nature of the blindness system, the mismatch between the consumers served by the system and the changing characteristics of the blind population, the absence of realiable and comprehensive demographic data, the insufficient funding of relevant research, the absence of a mechanism for converting technological research and development into direct benefits to blind persons, the need to achieve more effective consumer participation, the need to develop stronger linkages to the unofficial blindness system, etc.

The issues involved in these problems are real and complex. Rather than reacting defensively to the OSTI Report, which does not purport to provide answers, we should address ourselves to finding solution to the problems which it has attempted to clarify.

* Copies of the OSTI Report are available from OSTI Press, 55 Chapel Street, Newton, Massachusetts 02158.

Current Literature



The Use of Origami in the Mathematics Education of Visually Impaired Students, by Tuck Tinsley. *Education of the Visually Handicapped* (1839 Frankfort Avenue, Louisville, Kentucky 40206), Vol. 4, No. 1, March 1972, pp. 8-11. Illustrated article by a teacher at the Florida School for the Blind in St. Augustine, who has found the Japanese paper-folding art of Origami particularly useful in helping his students understand geometry.

Sex Role Typing in the Blind Child as Measured by Play Activity Choices, by Mary K. Cowan. *American Journal of Occupational Therapy* (251 Park Avenue South, New York, New York 10010), Vol. 26, No. 2, March 1972, pp. 85-87. Report of an investigation comparing play activities of 21 blind subjects and 21 matched control subjects in second through eighth grades.

The State of Blindness; Its Counselors of State; and Its Citizens, by Warren Bledsoe. *Rehabilitation Record* (U.S. Department of Health, Education, and Welfare, Social and Rehabilitation Service, Washington, D. C. 20201), Vol. 13, No. 2, March-April 1972, pp. 11-13. An excerpt from Mr. Bledsoe's keynote address to the Mid-Atlantic Regional Conference of the American Association of Workers for the Blind, September, 1970.

Problems in Managing the Young Deaf-Blind Child, by Laszlo K. Stein and Mary Briggs Green. *Exceptional Children* (The Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 South Jefferson Davis Highway, Arlington, Virginia 22202), Vol. 38, No. 6, February 1972, pp. 481-84. Brief article concerning the young deaf-blind child who is ineligible for residential placement.

Blind Parents and Their Children, by Rose Krol Burnham. *Dialogue* (3100 Oak Park

Avenue, Berwyn, Illinois 60402), Vol. 11, No. 1, Spring 1972, pp. 7-10. The author reports on interviews with two mothers of grown children, the parents of two young children, and the sighted daughter of blind parents.

The Attitudes of Non-specialist Teachers Towards Visually Handicapped Pupils, by M. J. Tobin. *Teacher of the Blind* (Royal School for the Blind, Church Road North, Wavertree, Liverpool, L156TQ, England), Vol. 60, No. 2, January 1972, pp. 60-64. Brief report on a survey of 80 British teachers.

Clear Path Our Way, by Joan Williams. *St. Dunstan's Review* (191 Old Marylebone Road, London NW1 5QN, England), No. 627, February 1972, pp. 3-9. The author and her husband took part in the trials conducted by St. Dunstan's of Dr. Leslie Kay's binaural sensor. Mrs. Williams relates their experiences in using not only the Kay device but all types of mobility aids.

A Trail on Trial, by David Castleton. *St. Dunstan's Review* (see address above), No. 624, November 1971, pp. 10-12. A nature trail in England started for the use of school children is in the process of being adapted for use by blind people.

The X-Ray Darkroom—A New Approach, by A. W. Yarnold. *The Chronicle* (The New Zealand Foundation for the Blind, Private Bag, Newmarket, Auckland, New Zealand), Vol. 11, No. 3, December 1971, pp. 12-15. The author, who is charge radiographer at Middlemore Hospital in Auckland, New Zealand, outlines the adaptations made in their darkroom procedures that enabled a blind person to perform the work.

A Comparison of the Effectiveness of Standard Print and Large Print in Facilitating the Reading Skills of Visually Impaired Students, by Kim Crispin Sykes. University Microfilms, Inc. (300 North Zeeb Road, Ann Arbor, Michigan 48106). Doctoral dissertation, Michigan State University, 1971, viii+131p. Order #71-31,320, $10.00. Report on a study conducted with 24 legally blind and 17 partially sighted high school students.

Performance of Blind and Sighted on Tactual-Kinesthetic Perceptual Tasks, by Bruce L. Packard. University Microfilms, Inc. (see address above). Doctoral dissertation, Temple University, 1970, v+58p. Order #71-10,831, $10.00. In his investigation the author used both embedded and non-embedded raised-line adaptations of selected pages of the Frostig worksheets originally designed for use in developing visual perception. —M.M.R.

Additional Listings

Income Maintenance for the Aged and Handicapped, by Robert M. Ball. *Public Welfare* (American Public Welfare Association, 1313 East 60th Street, Chicago, Illinois 60037), Vol. 30, No. 1, Winter 1972, pp. 33-38. A paper given by Mr. Ball, who is the commissioner of the Social Security Administration, at the 1971 National Round Table Conference, APWA.

A Director of Aids, Facilities and Services Available to the Jewish Aged in the City of New York. American Jewish Congress (15 East 84th Street, New York, New York 10028), 22 p. Free, single copy only. The imaginative format and wide scope of this booklet make it a useful model for agencies that are planning similar directories of local service.

The Challenge of Management by Objectives, by Wallace G. Lonergan, Ph.D., and Fred C. Pearson. *Community* (United Way of America, 801 North Fairfax Street, Alexandria, Virginia 22312) Vol. 47, No. 1, January-February 1972, pp. 3-5. Management by objectives begins by having all those who are working together for any purpose decide what they want to accomplish, set a date for the accomplishment, then schedule all the efforts that will be needed. The authors discuss the value of this approach in improving the effectiveness of social service agencies.

Can Madison Ave. Techniques Be Applied to Fundraising? by H. Malcolm Bybee and William A. Mindak, Ph.D. *Community* (see address above), Vol. 47, No. 1, January-February 1972, pp. 8-13. A report of a study to determine the effectiveness of applying marketing concepts and tools in a non-business enterprise, in this case, the National Foundation-March of Dimes.

Citizen Participation on Public Welfare Boards and Committees, by Edward J. O'Donnell and Otto M. Reid. *Welfare in Review* (Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402) Vol. 9, No. 5, September-October 1971, pp. 1-9. Report of a study of trends in recipient participation on public welfare boards and committees conducted by the American Public Welfare Association.

1971 White House Conference on Aging: A Report to the Delegates From the Conference Sections and Special Concerns Section. Senate Document 92-53. Superintendent of Documents (see address above), 60 cents.

Consumer Input—Why? National Health Council (1740 Broadway, New York, New York 10019). A booklet offering reasons for including consumers in health services decision-making processes.

Special Education Information Center Newsletter, Vol. 1, No. 1, March 1972, 4p. A new free publication of the Bureau for the Education of the Handicapped, U.S. Office of Education; a part of the project called "Closer Look." Copies available from "Closer Look Newsletter," Box 19428, Washington, D.C.20036.

The School Daze of the Learning Disability Child. Alpern Communications (220 Gulph Hills Road, Radnor, Pennsylvania 19087), $60. This parent/professional communication kit, produced by Willetta Silva, Henriette Engelson, and Mel Alpern, is a basic guide to learning disabilities, their impact on the child's growth and behavior, their effect on home and school situations, together with suggested steps to help modify the problems. Includes two 80-frame filmstrips, each with a 20-minute narration on cassettes, a resource and information booklet for parents, a copy of the recommendations of Task Force II of the Minimal Brain Dysfunction National Project on Learning Disabilities in Children, and a listing of the Special Educational Informational Materials Centers and their associate centers.

News in Brief

■ In February, the Bell Telephone Company held its first Phone Power training class for blind telephone salesmen at the Pittsburgh Branch, Pennsylvania Association for the Blind. Training materials for the class were adapted and recorded on tape cassettes by Bell's parent company, American Telephone and Telegraph. Braille materials were transcribed by PAB volunteers. Eventually all PAB personnel involved in selling Skilcraft products will complete the course; Bell hopes to offer it throughout the country to other agencies serving blind persons.

■ The Thought Tank, a new dictation system manufactured by the Dictaphone Corporation, Rye, New York, is intended to reduce the number of steps in the dictation and transcription of correspondence and other communications. One recording/playback unit with an endless loop of magnetic tape is used; the recording is done directly via a telephone-like handset from the dictator's desk. Since the unit is self-contained, there is no loading or unloading of recorded material. Corrections can be made during the recording. Because of the manufacturer's claims regarding the elimination of nine steps in the dictation process and seven steps in transcription, blind persons whose work involves either of these tasks may find this system worth investigating.

■ The Older Readers Services Act of 1972 (H.R. 13467), introduced in Congress by Rep. John Brademas (D.-Ind.), would provide $50.6 million over the next four years for library programs for older Americans. An identical bill has been introduced in the Senate by Sen. Lloyd Bentsen (D.-Tex.). Both bills are in response to a specific recommendation made by the 1971 White House Conference on Aging.

■ At the end of 1971, individual memberships in the American Association of Workers for the Blind reached a new high of 2,821. This represents a gain of 642 members during the 1970-71 campaign led by Vincent J. Iacurto, national membership chairman.

■ Dr. Garfield David Merner, 89, industrialist, philanthropist, and past president of the Pfeiffer Medical Research Foundation of New York City, died on February 27 in San Francisco.

■ It was recently decided in a case before the U.S. Court of Claims that the photocopying of copyrighted material from books and journals by libraries and researchers is an infringement of copyright and that publishers are entitled to collect royalties on such copies. The court found in favor of Williams & Wilkins, publisher of scientific and medical books and journals, and against the U.S. Department of Health, Education, and Welfare and its National Institutes of Health and the National Library of Medicine. The landmark 63-page decision and some of its implications for libraries and publishers are summarized in the February 28, 1972, issue of *Publishers Weekly* ("Government Loses Photocopying Suit," by Susan Wagner, pp. 48-49).

■ The American Foundation for Overseas Blind, headquartered in New York City, has assigned Frances W. Wiesenfeld as an education consultant to the Ministry of Education in Iran. The one-year project is to develop a nationwide educational program for blind Iranian youngsters, including their integration with sighted children. Mrs. Wiesenfeld is training teachers for the program, directing the production of braille materials, and coordinating curricula in schools for the blind. She recently concluded a similar three-year AFOB assignment for the Government of Ceylon.

■ The Newark (N.J.) Museum is holding its annual show for blind and visually handicapped persons with an exhibition entitled "Touch and See No. 9—Beyond the Shackles of the Earth." The exhibit includes models of rockets, satellites, and space probes, tactual globes, a relief map of the Hadley Rille area of the moon, a sample of the moon's surface, and a meteorite. The moon rock was supplied by the American Broadcasting Company, the rocket models by the National Aeronautics and Space Administration. The show, which opened in March, will close on July 2.

■ The American Academy of Pediatrics, the American Academy of Ophthalmology and Otolaryngology, and the American Association of Ophthalmology recently issued a joint statement warning against "the common practice of attributing children's learning disabilities to subtle visual abnormalities presumed to cause faulty perception." They note that youngsters with learning disabilities have the same incidence of visual abnormalities as normal school achievers, but that there is no evidence that they have peripheral eye defects which produce dyslexia or associated learning disabilities. Further, a review of the effects of eye and visual training programs has led them to conclude "that no scientific evidence supports claims for improving the academic abilities of learning-disabled or dyslexic children with treatment based solely on visual training . . . or neurological organizational training. . . ."

■ The Pennsylvania Society for the Advancement of the Deaf and the Elwyn Institute, both in Philadelphia, have affiliated to provide improved housing and care for the residents of the Home for the Aged Deaf and Blind-Deaf. To accomplish this, the facility was moved to the Elwyn property and is now operated by the Elwyn Institute as the Nevil Home. Charles E. Boyd is the director.

■ Students at the State University of New York at Buffalo have begun a project to record college textbook material on magnetic tape for blind persons in the Buffalo metropolitan area. The project was initiated at the suggestion of Bertha Cutcher, assistant dean of students, and is being coordinated by Dr. Charles Petrie of the University's Speech Communication Department.

■ In July 1971, an act allowing optometrists to diagnose ocular diseases and to administer certain drugs and chemicals to the eye was signed into law by the governor of Rhode Island. In March of this year, however, the Rhode Island Ophthalmological Society began a class action proceedings to have the law ruled unconstitutional. The State Superior Court granted a temporary order barring Rhode Island health officials from putting the law into effect pending a hearing. This law is the first of its kind in the nation, although similar legislation has been introduced in New York and Massachusetts.

■ A six-week curriculum course for educators of deaf-blind children was held recently at the Institut voor Doven in Sint Michielsgestel, Holland, sponsored by the American Foundation for Overseas Blind, New York City. Fourteen invitees, representing Denmark, France, Germany, Italy, Sweden, Switzerland, Tanzania, and the United Kingdom, participated. Dr. Jeanne R. Kenmore, director of AFOB's Europe-Northwest Africa Region Office, Paris, was the coordinator.

■ A year ago, the Greater Pittsburgh Guild for the Blind instituted a program for training volunteers to assist its orientation and mobility instructors. To date, 12 volunteer aides—all members of the Pittsburgh-South Hills Alumnae of the Kappa Kappa Gamma fraternity and all college graduates—have completed the course and are providing services under the direct supervision of regular instructors. The 20-hour program, much of it carried out with the trainees wearing occluders, enables them to teach the human guide technique and orientation to the local environment.

■ The National Genetics Foundation, in cooperation with a group of agencies for the blind in New York City, has begun a screening program aimed at finding and helping children and youths who have cataracts caused by a specific hereditary condition—namely, a deficiency of the enzyme galactokinase. Participating in the program are the Industrial Home for the Blind, Itinerant Program for the Visually Handicapped (Brooklyn Roman Catholic Archdiocese), Jewish Guild for the Blind, New York Association for the Blind, and the New York Institute for the Education of the Blind. The New York State Commission for the Visually Handicapped is also assisting in the project. The National Genetics Foundation is a nonprofit health organization that supports research into hereditary diseases and a nationwide network of genetic counselling and treatment centers.

■ "Aging Around the World—Dimensions of the Future" is the theme of the Institute of Gerontology's 25th Anniversary Conference on Aging at the University of Michigan, Ann Arbor, September 11-13, 1972. The objective of the conference is to commemorate 25 years of gerontology at the University of Michigan by assessing what the next 40-50 years hold for older people in this and some other societies around the world.

Material describing the program in more detail and registration forms are available from Wayne Vasey, Co-Director, Institute of Gerontology, 1021 East Huron Street, Ann Arbor, Michigan 48104.

■ Ralph G. Martin, author of the best-selling *Jennie: The Life of Lady Randolph Churchill* and of the 1962 book, *The Three Lives of Helen Keller* (co-authored by Richard Harrity), has begun work on a definitive biography of Helen Keller. Among the resources being used by Mr. Martin are the voluminous files of Miss Keller's correspondence and other material in the archives of the American Foundation for the Blind. It is estimated that the book, which is to be published by Simon and Schuster, will take from two to five years to complete.

■ The "Large Print Booklist," a catalog of some 1,200 titles available in large type, has been issued by Large Print, Ltd. (505 Pearl Street, Buffalo, New York 14202). This company is a jobber specializing exclusively in the printing of large print books; it is also a retail outlet for the large print books of 32 publishers, including Harper & Row, Scribner's Simon & Schuster, and Viking Press. Last year, Large Print, Ltd. began issuing its own reprints of large type books, including *Love Story*, by Erich Segal; *The Day Christ Was Born*, by Jim Bishop; and *Please Don't Eat the Daisies*, by Jean Kerr.

■ Plans are being developed to establish a rehabilitation health, recreation, and sports center at Lake Tahoe, California, to provide individualized treatment plans to aid persons with any type of handicap to bridge the gap of social isolation and inactivity. The center will be named the Sonia Henie Healthsportcenter in memory of the world famous Norwegian Olympic iceskating champion and will be patterned after the famous Healthsportcenter Beitostolen in Norway which was pioneered by the blind skier Erling Stordahl.

The center will offer challenging winter and summer sports modified to compensate for the limitations of each individual. Among the sports planned for the blind are skiing and target shooting using electronic sights. These and many other activities, including watersports, horseback riding, golf, gymnastics, track, and dog sledding, will be available to any disabled person. The facilities will also be open to persons in training for the Olympic Games for the handicapped. Further information about the center is available from Mrs. F. Aasen, Development Coordinator, Sonja Henie Healthsportcenter, P.O. Box 463, Napa, California 94558.

■ The Perkins School for the Blind, Watertown, Massachusetts, recently released a new 29-minute, color, sound, 16 mm. film entitled *Realities of Blindness—The Perkins Experience*. It is available on free loan from Film Library, Campbell Films, Academy Avenue, Saxtons River, Vermont 05154.

■ Representatives of 23 principal agencies providing textbooks for blind students convened February 28-29 at the New York headquarters of Recording for the Blind, Inc., to explore the concept of a National Repository of Taped Educational Materials and Tape Duplicating Center. Such a center would be designed to offer the nation's blind students a speedy central reference point, help prevent expensive duplication of voluntary effort, and build the greatest possible resource of recorded study aids available anywhere.

Recording for the Blind, which sponsored the two-day symposium, first laid the groundwork for a workable national repository when it agreed in 1971 to stock and duplicate master tapes executed by other recording organizations in conformance with the standards for production of recorded materials adopted for national application by the National Accreditation Council for Agencies Serving the Blind and Visually Handicapped. RFB's Master Tape Library, which includes more than 17,000 complete books, would form the nucleus of the proposed repository and provide its actual prototype.

As the next step toward realization of the repository concept, four agencies—Johanna Bureau for the Blind and Visually Handicapped, Chicago; Talking Tapes for the Blind, Webster Groves, Missouri; Xavier Society for the Blind, New York City; and Volunteer Services for the Blind, Philadelphia—forming the core of an Advisory Committee chaired by Recording for the Blind, agreed to conduct a Master Tape pilot project for the purpose of assessing their own home-recorded output against basic NAC standards and determining whether their respective tapes can indeed be successfully duplicated for general circulation. It is hoped that the results of this preliminary test will ultimately lead to the activation of the national repository.

■ Frederick S. Mosely, Jr., 68, president of the New York Association for the Blind, New York City, died on February 1. Robert H. Bennett, a member of the NYAB board since 1963 and a retired vice president of General Foods Corp., has been elected to succeed Mr. Mosely.

■ The Hadley School for the Blind (700 Elm Street, Winnetka, Illinois 60093) recently announced that an expansion of its facilities has made it possible for the school to increase the enrollment in its free, accredited correspondence courses by 300 students. The Hadley courses include a wide variety of academic, vocational, and avocational subjects.

■ Combined theoretical and experimental studies of light scattering in the cornea conducted by Dr. R. A. Farrell and R. L. McCally of the Applied Physics Laboratory, Johns Hopkins University, have shown that swelling of the cornea affects the passage of colored light by disrupting the ordered arrangement of the collagen fibrils (protein rods) of which the cornea is composed. Further, the absorption of water by the cornea in certain diseases results in the opening up of areas which are completely devoid of rods. Called "lakes," these areas within the swollen cornea are responsible for the loss of transparency. The Hopkins' scientists said that their studies could serve as a guide for determining the basis for the clinically significant losses in corneal transparency associated with wound healing, corneal transplantation surgery, and contact lens toleration.

■ Eye specialists in West Germany have developed new methods of combatting two frequent eye ailments, retinoblastoma and glaucoma. At the Essen University Eye Clinic, Professor G. Meyer-Schwickerath has successfully treated a retinoblastoma using bundled light rays to establish a ring-shaped combustion zone around the tumor, cutting it off from the blood supply and so-to-speak "starving it out." The cancer cells died off and the tumor turned into a scar on the retina causing no serious loss of vision.

At the eye clinic of Berlin's Free University, Professor H. Hager is using an argon laser to treat glaucoma. The laser, with a beam ten times finer than what has up to now been standard, is used to shoot minute holes through the cornea of the affected eye, thus making drainage of the fluid from the interior of the eye possible.

■ Columbus Technical Institute (550 East Spring Street, Columbus, Ohio 43215), a non-profit, state-assisted, two-year technical college, has instituted a new training program for visually handicapped students interested in the field of data processing. The two-year course in computer programming leads to an Associate's Degree in Applied Business in Business Data Processing Technology.

The college also has plans for developing a comprehensive computer training and research center for blind persons that will provide follow-up service for graduates and others already in the field, a technical library of material in all media, home-study courses, braille software and utility programs, and information about aids and equipment. Eventually the center will also become involved in the research and development of new tools, services, and study methods through which computers can be used more generally by visually handicapped persons.

■ The administration of the Washington Square College of New York University, Manhattan, has begun to respond in recent years to the vocal discontent of its handicapped students. There is now an ongoing effort to eliminate architectural barriers in buildings and grounds. This year, a disabled-students center was established in a dormitory and a congenitally blind doctoral candidate, Bryant S. Vulcan, was appointed as the school's first advisor to disabled students.

In February, a Monday-evening sports clinic was started to teach wheelchair basketball, football, and self-defense. Fred Francis, a legless graduate student who is working toward a master's degree in rehabilitation counseling, has been in the forefront of the student movement to improve the general attitude toward handicapped students at NYU. The school, which hopes to triple the enrollment of disabled students in the next four years (present enrollment is 60, six years ago there were only two), has made plans to fit all buildings under construction with ramps; to install an elevator to provide access to the Loeb Student Center; and to modify one lavatory for use by those in wheelchairs.

■ *Black Box* is the name of the first literary magazine to be published exclusively in a tape-cassette format. Issued bimonthly on two C-90 cassettes, it will include black poetry, electronic tape-poetry, simultaneous translations of poetry in foreign languages, songs, theater pieces, experimental fiction, and interviews. The magazine, which is edited by Alan Austin, Etheridge Knight, Andrea Wyatt, James den Boer, and Michael Lally, is a nonprofit service of The New Classroom, an educational cooperative foundation, and is partially supported by grants from the National Endowment for the Arts, the Coordinating Council of Literary Magazines, and individual donations. Subscriptions are $20 per year ($14 if cassettes are returned for reuse). The address is Black Box, 3735 Jocelyn Street, N.W., Washington, D.C. 20015.

Appointments

■ North Carolina State Commission for the Blind: **Harry Lee Wicker,** supervisor of social service programs; **W. Edward Matthews,** supervisor of income maintenance; **W. Frank Simpson,** supervisor of staff training programs; **Dr. Thomas Baldwin,** agency research director.

■ National Advisory Eye Council, new members: **Mrs. Catherine B. Bauer,** St. Mary's, Pennsylvania; **Frank William Newell, M.D.,** Chicago, Illinois; **C. Clayton Powell,** Atlanta, Georgia.

■ The Westchester Lighthouse, White Plains, New York: **Myra Ball Ivory,** recreation director; **Elizabeth Scarlatos,** public education director.

■ U.S. Social and Rehabilitation Service: **Ladd E. Hamilton,** director of personnel.

■ Oregon State Commission for the Blind: **Robert L. Pogorelc,** administrator.

■ National Advisory Committee on Services for the Blind and Visually Handicapped, members (three-year terms): **Peter J. Salmon,** Brooklyn, New York, chairman; **L. H. Autry, Jr.,** North Little Rock, Arkansas; **Mrs. Robert Estes Johnson,** Englewood, Colorado; **Miss Barbara E. Richards,** Stockton, California; **The Honorable Reese H. Robrahn,** Topeka, Kansas; **F. Robert Wiesenberger,** Rocky River, Ohio.

Members (two-year terms): **Carl J. Davis,** Watertown, Massachusetts; **Miss Betty Ann Jones,** Utica, New York; **Mrs. Leah K. Manning,** Carson City, Nevada; **Lewis P. Meyers,** Madison, Wisconsin; **James Segvard Nyman,** San Antonio, Texas; **Mrs. Myroslava M. Oryshkewych,** Parma, Ohio.

Members (one-year terms): **Voris B. Bailey,** Kansas City, Kansas; **Dr. Stanley N. Clark,** Provo, Utah; **John S. Crowley,** Greenwich, Connecticut; **J. Michael Freeman,** Vancouver, Washington; **Kenneth Jernigan,** Des Moines, Iowa.

■ Center for the Blind, Philadelphia: **Norman Reimer,** vice president-planning (retains his position as director of the Center's Upsal Day School for Blind Children and Center Day Care).

■ Office of the Superintendent of Public Instruction, State of Illinois: **Mrs. Gail Lieberman,** educational specialist for services to visually handicapped children; **Robert Rittenhouse,** educational consultant for deaf-blind children.

■ National Center for Voluntary Action, Washington, D.C.: **Edwin D. Etherington,** chairman of the board; **Mrs. Lenore Romney,** vice-chairman; **Douglas K. Kinsey,** president.

■ National Advisory Council on Developmental Disabilities: chairman, **Dr. Elizabeth M. Boggs,** past president of the National Association for Retarded Children.

■ U.S. Rehabilitation Services Administration: **Francis X. Lynch,** director, Division of Developmental Disabilities.

■ U.S. Department of Health, Education, and Welfare, Executive Secretariat: **Donald T. Bliss,** executive secretary to the Department and special assistant to the Secretary; **Thomas P. Reutershan,** assistant executive secretary for health and consumer affairs; **Logan H. Sallada,** assistant executive secretary for education, child care, and civil rights; **Peter M. Wheeler,** assistant executive secretary of income maintenance and social services.

■ New York Association for the Blind, New York City: **Mary Jane O'Neill,** director of public education; **Rose Wagenheim,** director of volunteer services; **Jeanette Nathan,** mobility specialist; **Marjorie Mandell,** senior social worker; **Maxine Schack,** social worker.

Awards

■ National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, 1972 Award (for outstanding leadership in improving standards of service to blind nationwide): **Berthold Lowenfeld, Ph.D.,** consultant in psychology and education, Berkeley, California.

■ Pacific University, Forest Grove, Oregon, Doctor of Humane Letters: **Robert S. Bray,** chief, Division for the Blind and Physically Handicapped, Library of Congress, Washington, D.C.

■ *Dialogue,* Berwyn, Illinois:

Public Relations Competition, Agency Newsletters, First Place: **The Seeing Eye Guide,** The Seeing Eye, Inc., Morristown, New Jersey.

1971 Public Service Award: **Art Edgerton,** Toledo, Ohio.

Coming Events

June 4-7 National Rehabilitation Association, Great Lakes Region, Annual Conference, St. Paul, Minnesota.

June 4-8 Special Libraries Association, Boston.

June 7-9 American Association of Workers for the Blind, Southwest Regional Conference, Oklahoma City.

June 7-9 National Rehabilitation Association, Northeast Region, Annual Conference, Kerhonkson, New York.

June 11-15 Medical Libraries Association, San Diego, California.

June 22-25 Optical Manufacturers Association, Optical Fair, St. Louis.

June 23-24 National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, Annual Meeting, Miami Beach.

June 24-30 National Education Association, 110th Annual Convention, Atlantic City.

June 25-29 Association for Education of the Visually Handicapped, 51st Biennial Conference, Miami Beach.

June 28 North American Committee on Services for Deaf-Blind Children and Youth, Miami Beach.

June 29-July 1 Lions International Convention, Mexico City.

July 2-7 International Association of Gerontology, Ninth International Congress, Kiev, U.S.S.R.

July 2-7 National Federation of the Blind, National Convention, Chicago.

July 5-8 American Council of the Blind, 11th Annual Convention, Portland, Oregon.

July 19-22 Blinded Veterans Association, 27th National Convention, Hollywood, California.

July 23-26 National Rehabilitation Association, Southwest Region, Annual Conference, Dallas.

July 25-26 Mid-America Conference of Rehabilitation Teachers, Chattanooga, Tennessee.

July 26-28 American Association of Workers for the Blind, Southeast Regional Conference, Chattanooga, Tennessee.

July 26-August 2 International Council of Educators of Blind Youth, Fifth Quinquennial Conference, Madrid, Spain.

July 29-August 2 International Association for Child Psychiatry and Allied Professions, 8th International Congress, Philadelphia.

August 13-19 International Council on Social Welfare, 16th International Conference, The Hague, Netherlands.

August 27-September 1 International Society for Rehabilitation of the Disabled, 12th World Congress, Sydney, Australia.

September 4-8 Fourth International Health Conference, Royal Society of Health, Dublin.

September 5-8 American Public Welfare Association, Northeast Regional Conference, San Juan, Puerto Rico.

September 11-13 Gerontology Around the World, 25th Annual Conference on Aging, University of Michigan, Ann Arbor.

September 19-22 American Public Welfare Association, Southeast Regional Conference, Biloxi, Mississippi.

September 20-22 American Association of Workers for the Blind, New England Regional Conference, Hyannis, Massachusetts.

September 24-28 American Academy of Ophthalmology and Otolaryngology, 77th Annual Meeting, Dallas.

September 28-30 American Association of Workers for the Blind, Western Regional Conference, San Francisco.

October 1-6 Fifth International Congress on Mental Retardation, Montreal.

October 1-7 Employ the Handicapped Week.

October 15-21 National Rehabilitation Training Institute, Miami Beach.

October 22-25 American Public Welfare Association, Western Regional Conference, Phoenix.

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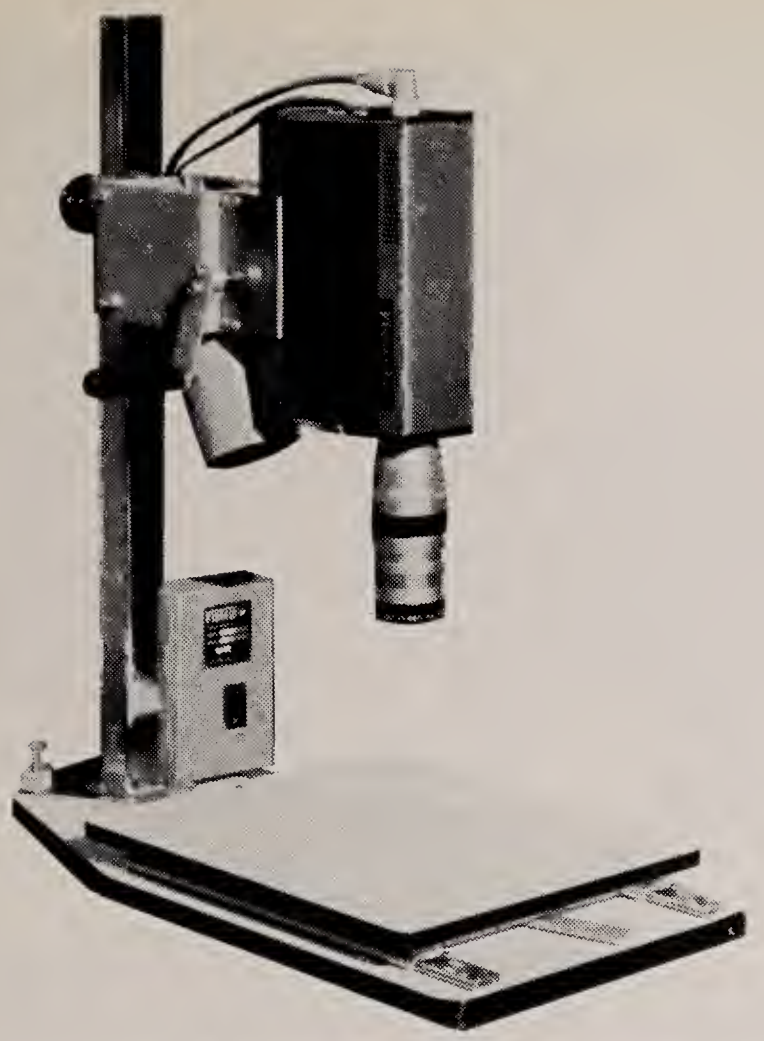
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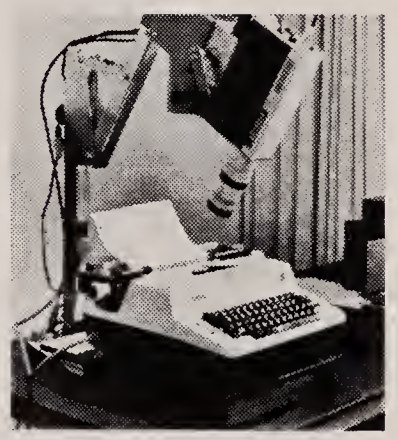


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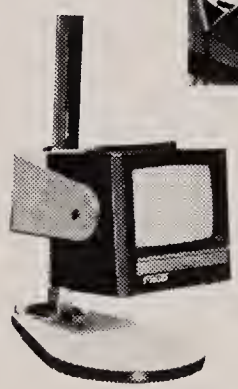
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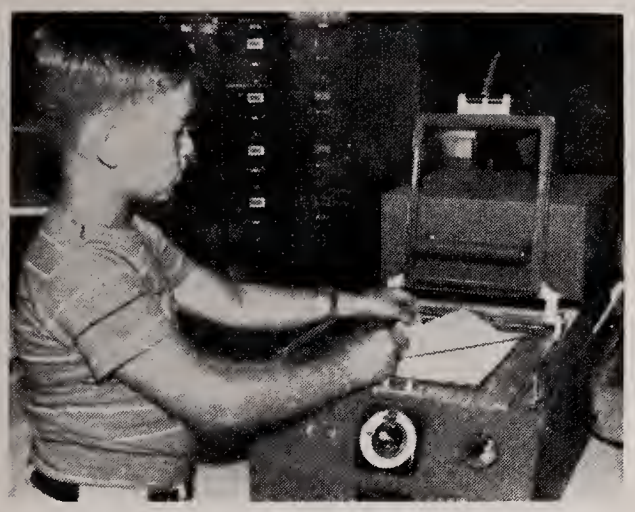
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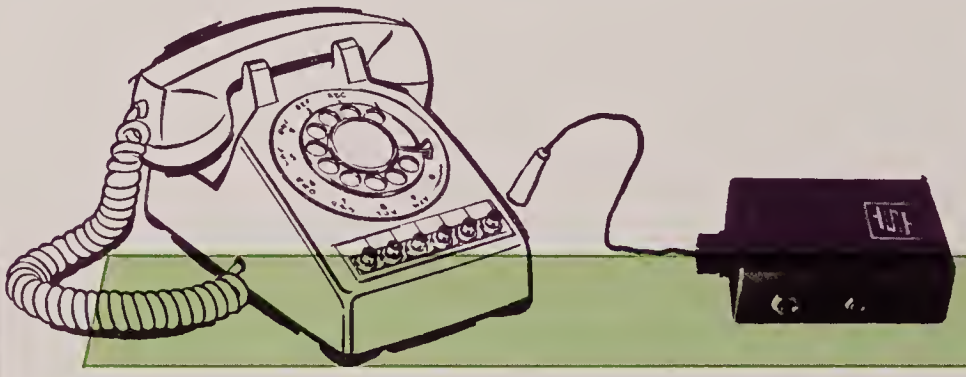
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Realizing a Comprehensive National Policy
on Aging and Blindness
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congenitally blind person. He is unable to interpret non-verbal communication (interpersonal communication expressed through movements of parts of the body—such as the hand, arms, or face—independently or accompanying speech) or to utilize appropriate gestures himself.

Nervous movement

Nervous movement occurs in any emotional situation in which we want to convey a message. In infancy, the nervous movement is distributed throughout the whole body as a way to release energy. As the child matures, he is indirectly taught more subtle ways to express his emotions and to release nervous energy. The necessity for finding adequate expression of the organism's energy has been stressed, and it has been suggested that blind individuals find outlets for inhibited expression in autistic gestures that serve no useful purpose other than the release of nervous tension.[14] (Autistic gestures are psycho-motor responses centripetal in nature and directed toward the body as opposed to natural psychomotor responses that have the motive of communication. The response is centered on physical sensations such as rocking. Many "blindisms"—gestures or behavior patterns characteristic of blind persons, especially congenitally blind children—may be included in this category.) These often bizarre-appearing behaviorisms also contribute to the blind individual's "conspicuousness," so that he is doubly distinctive: by the absence of acceptable gestures and by the presence of unacceptable movements.

"Blindisms"

Time of Opportunity

☐ Today, more than ever before, blind persons have the opportunity to become active members of society by taking advantage of educational and vocational programs which seek to prepare them to function effectively and independently. Frequently, the blind individual finds, however, that he can not gain social and professional acceptance regardless of his qualifications. Blindisms, or the lack of typical sighted behavior patterns, label the blind person as "different" and cause others to feel uncomfortable when in his presence.

> . . . the sensorily deprived are permitted to live in a given society if they adapt to a system of communication structured to handle their specially defined function within the particular society . . . if the deaf or the blind in any culture can be adapted to established roles within the society, they are viable. Such roles structure, if they do not determine, the communication behavior of both the sensorily deficient and those who interact with them (p. 112).[1]

Widely accepted expressive movements

Congenitally blind individuals are not generally proficient in widely accepted expressive movements because of their lack of the opportunity to observe and learn behavior patterns from others. Inquiries into the origin of movement expression seem to indicate that most gesture and facial expression patterns are the products of learning, except for certain inherent kinds of gesture patterns resulting from emotional states such as rage, fear, and shame. The learned patterns, of which we may not be completely aware, range from a shrug of the shoulder (typical of a conscious pattern) to minute facial expressions which are reflexive.

Eliminate negative—but teach positive

Educators and rehabilitation workers realize the importance of eliminating blindisms and other negative distinguishing features; however, the

value of acquiring appropriate gesture and facial expression patterns has yet to gain the recognition which it deserves. In order to make himself more clearly understood and to put others at ease, the blind individual needs to acquire gestures appropriate to such situations as informal conversations, soliciting information from the man on the street, and business interviews and meetings.

Review of the Literature

☐ The literature was reviewed to determine what previous investigations had been made in the area of non-verbal communication, and to evaluate the possible implications they might hold for the training of congenitally blind persons in non-verbal communication.

Innate vs. learned behavior

There has been some controversy over the nature of man's expression patterns; some support the view that such patterns are inherent, while others have found a basis for claiming that movement patterns are learned. Darwin proposed that certain movement expression patterns are innate, the result of primitive action patterns, often with a direct evolutionary link between animal and man.[6] Most gestures and body movements express the same drive at the present that they did originally, although some primitive action patterns have undergone modification and become "culturalized."[7] An example of this carry-over is suggested in the example of the wolf baring his teeth for a better grip on the prey; a primitive action now manifested by man as the baring of teeth in anger.

While Darwin attributed basic facial expression to "innateness," he did not reach the same conclusion regarding the nature of other common expressive movements of the limbs. Common gestures such as affirmative or negative head shake do not appear to be innate since they are not universally used.[7]

Three changes in emotional development

Social and emotional development are closely related. Emotional development in infants progresses from frequent intense emotional response to responses in accordance with training and social pressures. Young speculates that general diffuse excitement may very well be the only innate emotion.[14] A study conducted by Bridges of the emotional behavior of infants in a hospital showed that emotional development involves three classes of change in the gradual evolution of emotions. The first stage is characterized by general, poorly organized responses to one or two general types of situations, such as delight or distress. In the second stage, more definite forms of responses begin to appear in relation to more specific situations. With the third stage, simpler responses are combined in units, and bonds of association are formed between the emotional response and detailed aspects of the stimulating situation. At this point, the emotions corresponding to anger, disgust, joy, and love would appear. As new muscles develop and new skills are learned, the emotional response patterns will broaden and be refined. Chronologically, Bridges found that the emotional response for disgust was first shown at five months, although the adult form was not manifest until two or three years of age; the fear response appeared at five months in the presence of a stranger; temper tantrums appeared at 14 months; jealousy and annoyance at 15-18 months; and delight at two months.[5] On the basis of

Bridges' work, Young concluded that 1) with maturation, specific emotions emerge out of diffuse nervous excitement and 2) the type of response for each emotion depends on the habits and skills which have been acquired.[15]

Distinguishing Social and Emotional Expressions

☐ Although the close relationship between social and emotional development has been investigated,[5] it is important to distinguish between social and emotional expressions. Emotional expressions are acted out to some extent for communication, in order to conform to group standards or to produce an effect upon others. Additionally, to some extent such expressions are involuntary and reflexive bodily changes which are physiologically determined.[15] Menzies showed that bodily processes controlled by the autonomic nervous system can be linked through ordinary conditioning to such activities as bodily attitudes, gestures, and implicit speech reactions. Such processes, he found, have great stability and permanence.[11]

Mimicry and imitation

A later study emphasizes the mimicry origin of gestures. The first gestures of imitation begin at six months of age when the infant undergoes the transition from the instinctive to the emotional stage and imitates gross movements with arms and hands. Real imitation is finally possible when the child understands (through imitative gestures) the inner processes on which such gestures are based, and then can make another type of gesture by first comprehending images and then translating them into movement.[14]

Blind Infants and Gestures

☐ Little information is available, however, on emotional development specifically related to blind infants. Only two cases describing the use of common gestures or facial expressions by congenitally blind were found. (The two cases are described as "congenitally blind" but no information is given as to the actual time of blindness or the cause or degree of blindness, and may leave some question as to the applicability of the term used to describe these two cases.) Darwin attributed shoulder shrugging and raising of the eyebrows in appropriate circumstances to Laura Bridgman, blind, deaf and dumb since birth.[15] The second case involved a ten-year-old deaf-blind child. After studying the facial expressions of the child, Goodenough concluded that the distinct movement patterns found roughly corresponded to the rage, fear, disgust, and shame actions of sighted persons, suggesting that the primary forms of expressive behavior are determined by native factors which may become ". . . overlaid with a veneer of socially accepted forms of behavior. . . ." (p. 333). Smiling and laughing were also observed in the girl, generally in situations of a social nature.[8]

Literature on Kinesics

☐ The original literature on kinesics is found in the work of Birdwhistell, and is discussed further by Cratty.[6] This literature also supports the view that expression patterns are learned rather than innate. On the basis of anthropological studies it was discovered that different cultures use different gestures, suggesting that emotional patterns expressed in movement are learned. Body motion behavior is based on the physiological structure, but communicative aspects of this behavior are patterned by social and cultural experience.[1] However, there often is no direct relationship between the internal emotion and the movement (e.g., concealed

fear). Learned movement customs about eating and playing, for example, are often unique to certain social groups and some "kines" may be indigenous to a particular culture.

Systematizing body movements

There is an attempt by researchers in movement communication to design a shorthand system similar to dance notation to describe various gestures and expressions. The goal of the system is to maintain the flexibility of the kinesic unit, or "kine," in order to allow for its adaptation to individual and situational variations, while at the same time sufficiently defining the gestures and expressions so that they may be generalized to the society which employs them. To do this, kinesics deals with derivations of ranges of movements which have equivalent functions rather than with specific body movements or body parts. The variants of behavior are usually classed within regions of the body, and may differ in intensity, range, and velocity. A certain class of movement is made up of kine variants; for example, a kine such as a head-nod is a kinesic unit in a class of up and down movements, or side-to-side movements.[3]

Kinesic Communication and Blind Persons

☐ Interestingly, Birdwhistell found the problem of kinesic communication in blind persons as complicated and seemingly unapproachable as many professional workers with the blind do. He had hoped to isolate the function of visible communicative processes by studying blind persons to discover what they miss in interaction. His preliminary and limited observation of the interaction between blind adults and between blind parents and children became so involved in the complex problems of patterned learning and the intricacies of perception theory, that the study was discontinued at this point.[1]

The theater arts

Literature in various areas of the theater arts provides an excellent source of information on non-verbal communication. The art of mime, of course, is concerned exclusively with the non-verbal medium, but dance, which attempts to suggest internal emotional states through limb and body movement, and acting methods, which work on the principle of subtle and overt use of body movements to communicate ideas and emotions, can also offer suggestions that might aid in the development of a non-verbal communication program for blind persons.

The craft of acting

Some of the requisites for the actor to keep in mind in order to use his body effectively are described in a book on acting methods by S. Seldon. The actor must exercise control so that the right effect is produced at the right time without apparent effort. Control may be developed by being alert and ready to react. Mental direction, a second important factor, is needed to synchronize the physical and mental movement. The most important requirements, particularly when we attempt to apply this information to blind persons, is a sense of awareness: awareness of one's own physical and mental existence as well as the proximity of people and objects. The actor must be able to sense stimuli which signify emotional situations or emotions if he is to recreate a feeling successfully. Awareness can be cultivated, Seldon proposes, by developing recollections of objects, people, and emotions.[12]

Movement in Acting and Mime

☐ In many books on acting and mime which were included in the survey

of literature for this study, expressive movements were discussed according to the body part involved. Movements of the arms and hands are divided into three characteristic types by Blunt. The first category, in which the arms, hands, and fingers are used as prime communicators, includes movements to point directions, to wave instructions, to make exact descriptions of physical objects, to aid in expression of abstract ideas, and to make language symbols or motions in the air that carry work meaning. The second category included motions in which the arms and hands act as liaison agents relating the body to the outside world by touch; extended arm, palm facing outward conveys the message to stay away; palm turned in with gesture inward invites one to come closer. The third category, in which gestures act as militant units, has no bearing on this study.[4]

Music and dance

The important role which dance can play in emotional development was expressed by H'Doubler: "Since movement is such a vital human experience, it is to be expected that movement as dance can play an important part in the development and enrichment of the emotional nature" (p. 49).[10] Movement to rhythm can be especially beneficial to blind persons in that a certain sense of physical security, gracefulness, and independence is conveyed when movement is accompanied by music.

Dance and learning

Another writer emphasizes the great value of dance as a medium of learning. Through dance, the student can broaden his movement experience and begin to understand more fully his own movement potential. He learns to control, extend, and organize movement while developing concepts of space, time, force, and weight. Dance activity contributes information about the person's own body, his environment, and his relationship to others, enabling him to become more articulate non-verbally.[13] Dance activity may also be of particular use to blind persons in developing movement sensibility, because it calls for the more complete use of the body instrument than normal and increases kinesthetic stimulation.

Summary of Literature

☐ Literature from the areas of emotional development, kinesics, and the theatrical arts provide a body of information dealing with various aspects of non-verbal communication. A major portion of the material written on emotional development centers on the question of the nature of man's expression patterns, on whether they are innate responses or the product of learning. It would appear that some action patterns associated with intense emotion are inherent, but most facial expressions and gestures are learned. The literature on kinesics is concerned primarily with the systematic ordering of behavior patterns into units, and attempting to describe certain cultural variations. Literature from the theatrical world deals with acting methods that enhance the actor's ability to create a character and use his body as a medium of expression. Dance, too, serves to foster expressive movement and would seem to be beneficial in work with persons who are inhibited in their movement.

Limitations of studies from other fields

Although the literature which serves as a background for this study can suggest various approaches to the subject of non-verbal communication, its major limitation is that it is related almost exclusively to sighted persons. Apparently no attempt has been made in the past to study the prob-

lems of non-verbal communication in blind persons; consequently, most of the information may be only indirectly applicable to this study. The material on kinesics is relevant in that it suggests a system for organizing gestures and expressions into units that would facilitate the teaching of such movements during the course of a training program. Because the theater arts work on the principle of making things bigger than life for the stage, many of the acting methods would result in gross exaggeration and could not, therefore, be used in a normal situation. However, the material from this field does include ideas which might be considered in respect to using the body more effectively as an instrument of communication.

Kinesic Vocabulary

☐ Kinesics training for congenitally blind persons should attempt to acquaint them with facial expressions and gestures that are common to everyday situations, but be flexible enough to allow for the molding of behavior patterns to fit the individual. While it is recognized that a kinesic unit must be flexible enough to permit adaptation on the part of the viewer to individual and situational variation, a system of gestures and expressions must be ordered enough so that they can be internalized by members of the society who use those gestures.[2]

Gestures

Gestures used should be such that blind persons find them advantageous, not only for social-"cosmetic" reasons, but as an aid to communication. In order to be included in a basic kinesic vocabulary for training purposes, the kines should have the following advantages: 1) be almost internationally understood, regardless of the spoken language; 2) express shades of meaning; 3) through modifications of the basic gesture, indicate adjectivally the idea of size, shape, speed, approval, disapproval, etc.; 4) explain with facility a concept such as "spiral" that is more difficult to define verbally; and 5) be executed more rapidly than speech.

A Suggested Set of Kines

☐ On the basis of a review of the literature and personal observations, a standard set of kines (facial expressions, gestures, postures) that are the most generally recognized and that use visually perceived aspects of non-verbal communication, was composed to serve as the basic kinesic vocabulary. A kinesic vocabulary which might be useful in the training of blind persons could include the following kines:

Facial Expressions

grin smile frown

anger surprise disgust

Gestures

Positive response head shake
Negative response head shake
Doubtful or indecisive shoulder shrug
Motioning
- "come to"
- "go away"
- "Hi"

Pointing
- "over there"
- "here"
- "this"
- "that"
- "you," "he," "him"
- "me," "I"

Descriptive—hand, arms, fingers
- "big," "large," "huge"
- "little," "small," "tiny"
- "tall"
- "short"
- "long"
- "wide"
- "thick"
- "narrow"
- "straight"
- "thin"
- "curved"
- "round," "circular"
- "fat"
- "bumpy," "rough"
- "smooth"
- "two," "three," "four," etc.

Summary

☐ Further effort should be made to explore some of the areas outlined in this paper and to create an effective training program in non-verbal communication techniques for blind persons. While it was not within our scope to describe such a program, the survey of the literature should suggest a few basic components of an adapted kinesic training program. Guidelines for kinesic training may be drawn from kinesics, the theater arts, recreation, and physical therapy.

It is hoped that those engaged in work with blind persons will begin to work out some of the problems posed by this study and to develop a training program which will enable blind persons to become more effective and successful in their interpersonal communication.

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Braille Bookkeeping

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As part of a summer vocational program at the Tennessee School for the Blind, a young man was given the opportunity to operate a vending stand at a swimming club. His reading medium was braille and, since he expressed an interest in the independent maintenance of the records of his operations, it was decided to experiment with adaptations that would permit him to keep the required simple set of books in braille.

Survey of the Literature

☐ A search of the literature revealed very few references to similar experiments. Fraser describes in some detail a system of bookkeeping in braille used at the Halifax School for the Blind in Nova Scotia.[1] A braille slate was used, but there is no mention of any modification. Dates were represented by numbers to economize space and the form of entry was slightly modified. The system involved a journal, a cash book, and a ledger, the first two being used as books of original entry.

Limitations cited

Long indicates that bookkeeping was offered at the Overbrook School for the Blind, Philadelphia, but no description of the methods used or the adaptations effected to facilitate record-keeping appears in any of the articles.[3,4,5] The author seems to indicate that records could be kept in braille.

Paulmier, reporting on the commercial program at the Overbrook School for the Blind, states categorically that bookkeeping can not be taught adequately unless a special long slate is developed; and that braille, being reversed when using the slate, makes the teaching of debit and credit confusing. He concluded that it is only practical to teach simple record-keeping and the general theory of accounting practice.[6]

Positive experience

Kappel prepared a text in the field of small business management (vending stand operation) designed to meet the needs of the Business Education Department of the Overbrook School for the Blind.[2] The text indicates that the instructional units were used at Overbrook, corrections made, and the units tried again. However, no specific information regarding the bookkeeping methods used appears in the text. Shober writes in the "Introduction" to Kappel's text, "We have found that records can be kept in braille if the journal is bypassed. The braille operator can set up a series of accounts in ledger form. This method is facilitated with the use of braille notebook paper and a braille writer."

After careful study of the nature of the business involved in this experiment, a chart of accounts was prepared (Table 1).

Writing Instrument

☐ Space limitations led at first to experimentation with a Perkins braille writer using paper 11 inches wide and 11½ inches in length. Such paper accomodates 40 braille cells on each line in the Perkins brailler. However, after further consideration, it was decided to standardize the forms with 37 braille cells per line to assure compatibility of the system with another

common writing instrument, the braille slate and stylus (APH #1-004), which is mounted on a slotted board equipped with a hinged paper clamp.

The inability to obtain consistent positive alignment of the entries when reinserting the account sheets in the Perkins brailler led finally to the adoption of the desk slate mentioned above as the writing instrument used in this experiment. The slate is mounted on a board with a paper clamp that has two pins which perforate the paper when the sheet of paper is first inserted. These holes serve to align the sheet exactly when it is reinserted.

An account form was designed (Figure 1). The number of the account and the name were purposely located at the bottom of the page because the loose-leaf account sheets were to be filed vertically. In such a vertical file the braille record is stored upside down, since the hand must be inserted with the fingers downward in order to read what is written on the card. Hence, the name and number were located at the bottom of the page for easy accessibility when searching for an account during posting.

☐ Intially it was planned to file the documents of record and to use them as the journal. The documents were to be inserted in the slate and encoded in braille with the name of the debit and the credit accounts, amounts, etc. It was soon realized that a standard format for encoding the documents would be needed, but the varied size and shape of the papers made this impractical. Accordingly, the idea was abandoned and a form was devised for general journal entries (Figure 2) on braille paper measuring 11 inches by 11½ inches.

The journal format varies only slightly from standard journal form. The cross reference number, normally appearing in a column to the left of the debit amount column, was placed on the same line with the account title, before it, at the left margin. A short ruling (dots 3,6 3,6 3,6) was placed before the date of each new entry as an indicator. No blank lines were left be-

TABLE 1
Charts of Accounts

Assets
101 Cash
102 Merchandise Inventory
103 Prepaid Supplies
Liabilities
201 Accounts Payable
202 Sales Tax Payable
Owner's Equity
301 Capital
302 Drawing Account
303 P & L Summary
Income
401 Sales
Costs
501 Purchases
Expenses
601 Salary Expense
602 Vending Supplies
603 Miscellaneous Expense

Journal

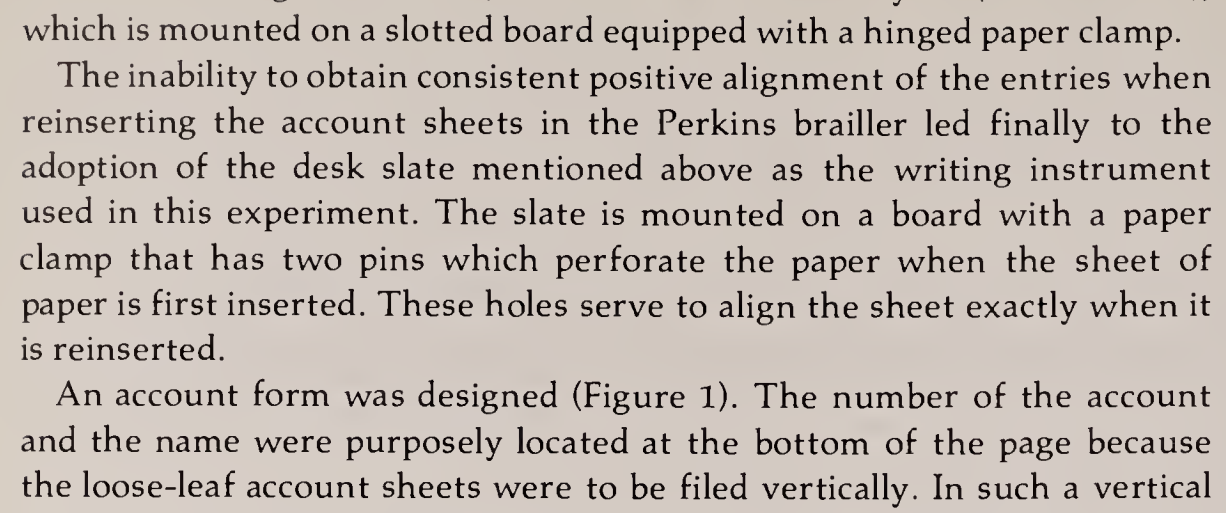


FIGURE 1
Schematic of Braille Ledger Account

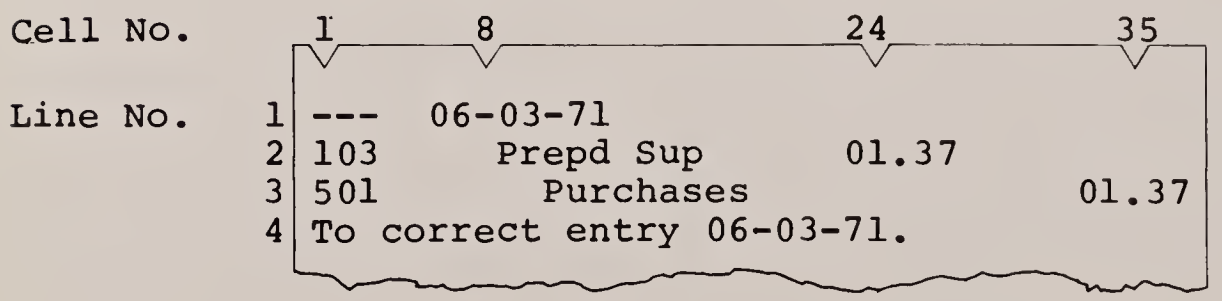


FIGURE 2
Schematic of Braille Journal Entry

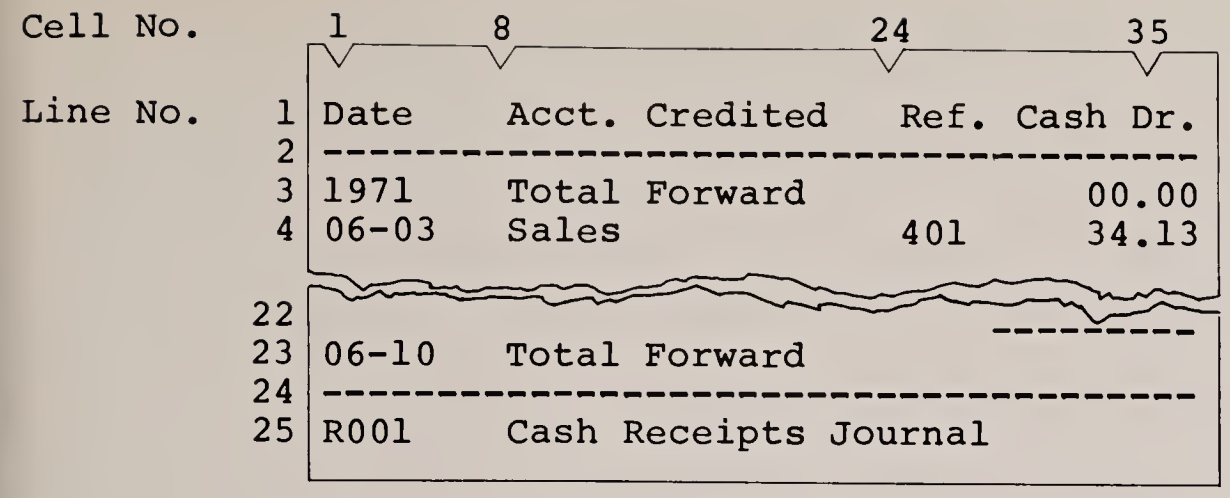


FIGURE 3
Schematic of Braille Cash Receipts Journal

tween entries. All dates were written in figures to save space; for example, June 1 was written as 06-01.

Avoiding blank spaces

An attempt was made throughout the records to avoid blank space in the columns. Zeros were written to fill the spaces because it seemed to facilitate addition of the amount columns; for example, 8.16 was written as 08.16. Blank space in vertical columns or in horizontal lines often seemed an obstacle to an accurate reading of the records.

Cash journal

Since most of the entries in this experiment reflected cash transactions, a simple form of cash book was designed (Figures 3 and 4). In these forms also, the number of the page and the name of the record were placed at the bottom of the page. The use of the cash journal greatly reduced the number of postings to the ledger accounts and saved time.

Modifications of the Slate

☐ The standard braille slate used in this study has four lines of 37 braille cells each. Reference points exist on the frame of the slate at intervals of every five cells, counting from right to left. These reference points were embossed between the cells. None of the reference points coincided with those needed for this experiment, hence, they were all removed by drilling from the reverse side, leaving a clean-cut hole, free of burr, which could not be felt. Then holes were drilled in the frame under, not between, cells 8, 24, and 35. A small brass rivet with rounded head was driven in each of these holes from the front of the slate and the stem ground flush with the back of the frame. The forms described were all designed around these fixed reference points on the modified slate.

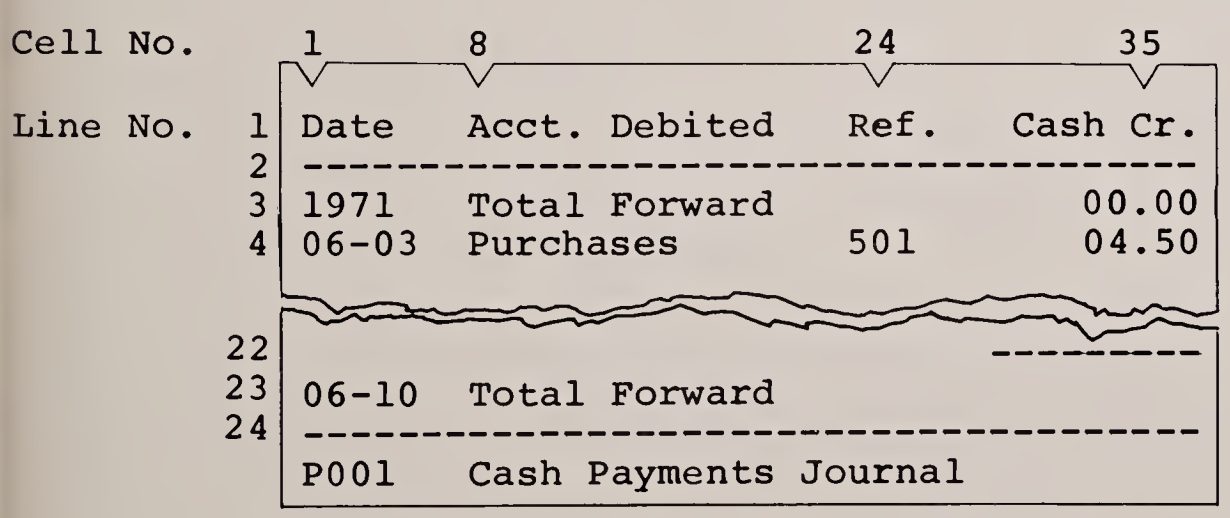


FIGURE 4
Schematic of Braille Cash Payments Journal

Posting

In posting, a letter preceded each reference number to identify the journal from which the information had been obtained—"G" for the general journal, "P" for the cash payments journal, and "R" for the cash receipts journal. The references were always kept to a uniform length: i.e., G003 or R010, rather than G3 and R10.

The amounts involved in this experiment were not larger than four digit numbers. Hence, four digits were always expressed: for example, 04.12, 83.27, 01.16, etc.

Using two instruments

Posting was speeded up by the use of two writing instruments simultaneously. The journal card was inserted in the Perkins brailler with the embossing head aligned with the first line of the entry and positioned over the reference column. The braille slate was used for the posting to the account. The reference number was written in the journal reference column with the brailler and the brailler advanced to the line of the next entry. The brailler thus served as a place marker and as a writing instrument to enter the reference. When two writing instruments are not available, the account sheet must be removed from the slate and the journal sheet inserted after each entry.

Duration of the experiment

The records of the vending stand were opened and kept for a period of two calendar months. A physical inventory of merchandise and supplies was taken at the end of each month, with adjusting and closing entries being made, and two financial statements prepared—the income statement (Figure 5) and the balance sheet (Figure 6).

Conclusions

☐ This experiment proved that bookkeeping in braille is feasible despite the two primary deterrents: limitations of space (inherent in the braille code, the writing instruments, and the paper sizes) and limitations of time (the accounts sheets and journal sheets had to be inserted over and over

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Cell No.        1       8                  24          35
                |       |                  |           |
Line No.    1   Income Statement, June 1971
            2   Sales                                  00.00
            3   Cost of Goods Sold:
            4     Beg. Inventory          00.00
            5     Purchases               00.00
            6*                            -----
            7     Goods for Sale          00.00
            8     Ending Inventory        00.00        00.00
            9*                            -----        -----
           10   Gross Profit                           00.00
           11   Operating Expense:
           12     Salary Expense          00.00
           13     Vending Supplies        00.00
           14     Misc. Expense           00.00
           15*                           -----        -----
           16   Net Income                             00.00
           17**                                       =====
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FIGURE 5
Schematic of Braille Income Statement

* Single ruling (Dots 3,6/3,6/ etc.)
** Double ruling (Dots 2,3,5,6/2,3,5,6/ etc.)

```
Cell No.        1       8                  24          35
                |       |                  |           |
Line No.   1    Balance Sheet June 1971
           2    Assets:
           3      Cash                                 00.00
           4      Mdse. Inventory                      00.00
           5      Prepaid Supplies                     00.00
           6*                                          -----
           7    Total Assets                           00.00
           8**                                         =====
           9    Liabilities & Owner's Equity:
          10    Liabilities:
          11      Accounts Payable        00.00
          12      Sales Tax Payable       00.00        00.00
          13*                             -----
          14    Owner's Equity:
          15      Capital                 00.00
          16      Drawing                 00.00        00.00
          17*                             -----        -----
          18    Total Liab. & Owner's Equity           00.00
          19**                                        =====
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*Single ruling (Dots 3,6/3,6/ etc.)
**Double ruling (Dots 2,3,5,6/2,3,5,6/ etc.)

FIGURE 6
Schematic of Braille Balance Sheet

again in the writing instrument, a factor not involved in script bookkeeping). Concerning the time involved: if the need for records were to increase under the demands of the business, a point would be reached where other bookkeeping methods would have to be employed.

The independence of the braille bookkeeper was complete except at two points in the operation: (1) He either had to (a) rely on his suppliers to provide the data needed to record purchases of merchandise and supplies, or (b) have a sighted assistant read the bill or invoice to him later; (2) A sighted assistant had to help determine the unit cost of items on the inventory by referring to documents of record. Once the unit cost was determined, the braille bookkeeper could again function independently.

Underlying the entire experiment was the principle of self-reliance. In this regard the study was singularly successful.

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New Committee on Services for the Blind to Advise U. S. Office for the Blind and Visually Handicapped, RSA

Terms of One, Two, and Three Years

The new National Advisory Committee on Services for the Blind and Visually Handicapped, comprised of leaders and consumers from the field of services to blind and visually handicapped persons, was appointed last spring to advise the Rehabilitation Services Administration, Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare, and its Office for the Blind and Visually Handicapped. The first group of members was appointed to staggered terms of one, two, and three years.

Peter J. Salmon Is Chairman

☐ Peter J. Salmon, administrative vice president of the Industrial Home for the Blind, Brooklyn, New York, was appointed to a three-year term as chairman of the committee. He also represents the American Association of Workers for the Blind on the committee.

Three-year members

Other members appointed to three-year terms are: L. H. Autry, Jr., Rehabilitation Services for the Blind, Little Rock, president, National Council of State Agencies for the Blind; Mrs. Robert Estes Johnson, Englewood, Colorado, who is with the Colorado Chapter of Recording for the Blind; Miss Barbara E. Richards, A.C.S.W., Stockton, California, director, Medical Social Services, San Joaquin General Hospital, French Camp, California; The Honorable Reese H. Robrahn, magistrate, Topeka, Kansas, and president, American Council of the Blind; F. Robert Wiesenberger, Rocky River City Council, Rocky River, Ohio.

Two-year members

Members appointed to two-year terms are: Carl J. Davis, head, Department of Psychology and Guidance, Perkins School for the Blind, Watertown, Massachusetts, and president, Association for Education of the Visually Handicapped; Miss Betty Ann Jones, Commercial Travelers Mutual Insurance Co., Utica, New York; Mrs. Leah K. Manning, A.C.S.W., Indian Social Services Program, Carson City, Nevada; Lewis P. Myers, Madison, Wisconsin (retired); James Segvard Nyman, assistant professor, Department of Political Science, Trinity University, San Antonio, Texas; Mrs. Myroslava M. Oryshkewych, Cleveland Society for the Blind, Cleveland, Ohio.

One-year members

Members appointed to one-year terms are: Voris G. Bailey, Kansas School for the Visually Handicapped, Kansas City; Stanley N. Clark, M.D., Provo, Utah; John S. Crowley, McKinsey & Co., president, American Foundation for the Blind, New York City; J. Michael Freeman, graduate student, New Mexico State University, Las Cruces; Kenneth Jernigan, director, Iowa State Commission for the Blind, Des Moines, and president, National Federation of the Blind.

Programming Individual and Adjunctive Therapeutic Services for Visually Impaired Clients in a Rehabilitation Center

EDOUARD L. WILSON

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Programming psychotherapy in a rehabilitation setting for blind clients, as in other settings, requires good planning, appropriate screening and diagnostic procedures, as well as professionally qualified staff. It is extremely important to recognize, however, that a rehabilitation agency is neither a mental hygiene clinic nor a hospital serving people who are primarily emotionally ill. The operational framework for setting up a therapy program should make it secondary to the primary rehabilitation goals of developing physical and expressive adequacy, social adequacy, and vocational readiness. Although psychotherapy in some rehabilitation cases may have to take precedence over these goals, such therapy should neither displace such goals nor assume the guise of mental hygiene programming.

Mild, Acute, and Chronic Problems

☐ The emotional reactions concomitant with the onset of blindness that are experienced by an individual may be mild, acute, or chronic. A chronic reaction involving an illness of long duration is often almost incurable, and the individual should usually be referred to a mental hygiene facility. Mild and acute reactions, which are usually more easily resolved, may be considered for treatment in a rehabilitation center setting. It should not be construed, however, that all chronic mental illnesses can not be treated in a rehabilitation setting, for there are such cases which do respond favorably in a rehabilitation program which is highly developed as a therapeutic environment. For example, a few borderline schizophrenics, especially ambulatory ones, chronic brain syndromes, and personality disturbances have responded favorably to treatment at the New York Association for the Blind when there was good motivation, positive family concern, and good external controls. In addition, expert and consistent handling by all rehabilitation personnel was crucial in effecting the positive response.

Contraindications

Thus, in screening clients for entry into therapy, stress should always be placed upon the uniqueness of the individual who is to undergo treatment rather than upon the diagnoses; there are many variables in each personality composite which would contraindicate therapeutic intervention for one client but not for another. For example, the literature and textbooks of clinical psychology, psychiatry, and psychotherapy always point out that aggressive, obsessive-compulsive, power-driven, or sociopathic personalities usually do not respond to individual psychotherapy; yet experience at the New York Association has revealed that some positive results may be obtained with such clients provided that the therapist is able to tolerate and withstand the stresses involved in treating one who has such a personality. A factor which must not be overlooked is that the personality of the therapist is also an important part of the therapeutic process and his controls must be highly stabilized and consistently ade-

quate. (This is why it is usually recommended that the therapist undergo individual psychotherapy as a learning and insight process prior to embarking upon a career as a psychotherapist.)

Planning Therapeutic Assistance

☐ In a large, multi-faceted agency such as the New York Association for the Blind, it would be very costly and time-consuming to provide only individual therapy, since clinical evidence has revealed that most of the clients who come for rehabilitation services do need some type of therapeutic assistance to help them in allaying their anxieties, lifting their depressions, and expressing their hostility and pent-up anger and thereby aid them in the process of adjusting or readjusting to their limitations. To extend therapeutic services to as many clients as possible, adjunctive techniques such as group therapy or psychodrama may be also provided. Since a single client is usually seen alone for 50 minutes, programming group therapy on a once-a-week basis for 90 minutes allows from six to eight clients to receive therapeutic benefits at one time. In addition, both short-range and long-range therapy has to be programmed, since some clients may spend a limited time at the rehabilitation center. Where clients are earmarked for at least a year or more in a rehabilitation program, therapeutic programming may proceed on an extended basis to coincide with the period of rehabilitation.

The development of psychotherapy

Many clients, as well as agency personnel, look upon psychotherapy with suspicion clouded by a preconceived notion that it is some mysterious or magical process. When Sigmund Freud published his first classical contribution to normal psychology, *The Interpretation of Dreams,* in 1900, it created quite an upheaval in society which, to some extent, is even being felt today. By the early 1920's American universities, as well as a select public, began to take psychoanalysis more seriously. While World War I had much to do with a need for developing treatment techniques for soldiers who were diagnosed as being victims of "shell shock," anxiety and depressive reactions, and conversion neuroses, it was not until after World War II that Veterans Administration rehabilitation teams began to focus more directly on psychotherapy as a major treatment technique; psychotherapy then became an accepted part of the rehabilitation process. It was also during this period that the discipline of clinical psychology emerged as an integral part of the treatment process and psychologists providing individual psychotherapy changed from the use of the couch and daily treatment to current face-to-face therapy which may be programmed for as little as once a week.

While the therapists at the New York Association for the Blind are basically psychoanalytically oriented in their treatment techniques, it would probably be safer to say that they are also eclectic since they are not rigid adherents of any one type of treatment process. Then too, focus is not so much upon sexual impulse development as it is upon the manner in which the blind client tries to cope with the anxieties and threats which are precipitating tension.

Defining Psychotherapy

☐ The question that nevertheless still arises is: "What is psychotherapy?" In its broadest sense, psychotherapy can be defined as a method of modify-

ing an individual's symptoms, feelings, thought processes, or behavior by means of communication in an interpersonal process. Attempts are made to modify environmental stresses which have disrupted the person's psychic equilibrium, to improve the person's adaptive capacities to these stresses, or both of these. Psychiatrists sometimes use drugs in treatment; however, clinical psychologists do not prescribe drugs, since they are not medical doctors. When drugs are used in treatment, this type of therapy has been labeled pharmacotherapy rather than psychotherapy. At present, only psychotherapy is programmed in our agency, since our psychiatrist performs his duties in the capacity of a consultant rather than as an active staff member.

The basic processes used in psychotherapy are as follows:

Catharsis

1. Catharsis—the free expression of ideas and feelings in an interpersonal situation in which the client feels neither censure nor emotional response, but only an informed willingness to help. The client can express hostility, unload pent up feelings, express anger, pity, or disgust, etc., about his blindness.

Interpersonal relationships

2. Insight by the client into the nature of his relationship with people in his current interpersonal life. For example, the client may learn that he acts out in a submissive way since he became blind because he fears that if he acted out in a positive or aggressive manner he would be rejected.

3. Insight by the client into the nature of his relationship with people in his past interpersonal life. For example, the client may learn that he was over-spoiled and over-gratified by his mother during childhood and adolescence which resulted in his having a false sense of superiority, which in turn is the basis for his present grandiose thinking since he became blind.

Personality

4. Insight by the client into his own personality characteristics and his ways of handling his feelings. For example, a client may learn that her constant nagging, inflexibility, and high, unrealistic standards created distance from her husband, thereby making it difficult for him to relate to her in a warm, considerate manner even after she became partially sighted. Little did she recognize that her behavior was a personality characteristic stemming from childhood rejection by her mother.

Relationship with therapist

5. Analysis of the client's interpersonal relationship with the therapist, the agency, the rehabilitation counselor, and other rehabilitation personnel. For example, the client who tries to manipulate all men with coy charm and flirtatiousness may also similarly attempt to mobilize the sympathies of the therapist, counselor, or other rehabilitation personnel in order to use them as a tool during interpersonal and family battles.

6. A corrective interpersonal experience in which the client develops both conscious and unconscious channels for developing new capacities for interpersonal relationships with many people in different areas of his life. For example, the passive client who is afraid of expressing his anger may first try expressing anger with the therapist or in a group setting. After he feels secure in the therapeutic setting, he may try to act out his anger during interpersonal situations when it is appropriate.

7. The unanalyzed aspects of the patient's relationship with the thera-

pist. Many parts of the therapeutic relationship are never put into words, but nevertheless they may have a profound effect on the client. For example, a rebellious adolescent may unconsciously develop a warm, friendly attitude toward the therapist (who responds similarly to the client), with the result that he may incorporate in his behavior the attitudes and behavior characteristics of the therapist.

Direction and suggestion

8. Direction—the therapist gives specific recommendations and advice to the client to assist him in the management of problems in his life. When such direction is given, it is usually for the fairly well-adjusted client.

9. Suggestion—the optimistic curative implications of an impressive treatment procedure which induces a feeling of well-being in the client and helps to remove symptoms and to modify limited aspects of behavior.

It must be borne in mind, however, that suggestion and direction play very limited roles in psychotherapy, while the other principles discussed constitute the crucial elements of the psychotherapeutic process.

Three Types of Psychotherapy

☐ The interpersonal approach to psychotherapy, the Freudian-psychoanalytic approach (modified forms of Freudian psychoanalysis), and supportive counseling are the three most commonly used types of therapy.

In using the interpersonal approach, the therapist meets the client for 50 minutes, once or twice per week, in a face-to-face relationship. The treatment program may run from several months to a year or two. This type of therapy is usually programmed for a select group of clients at the agency since no provisions have yet been established for clients who leave the rehabilitation setting for school or employment.

Classical Freudian analysis is not used at the New York Association for the Blind since this type of psychotherapy would require the client to report for a 50-minute period five times per week.

Supportive techniques

Supportive techniques are used extensively since many clients cannot respond to a deeper type of therapy. When a client possesses considerable disturbing emotional problems which contraindicate probing because of the client's fragile defenses and the danger of precipitating a psychotic break, only supportive techniques are employed. The therapist usually uses much reassurance, explains the emotional nature of the client's symptoms, and gives direct advice on how to handle day-to-day situational problems. Caution must also be exercised to insure that the client does not become too dependent upon the therapist.

With intellectually bright clients, the approach may also be used to reconstruct emotional problems stemming from childhood to the present or to re-educate the client by helping him to find newer and more successful means of meeting his needs. For a client who is classified as "hard core," the approach would in all probability be directive: the therapist would attempt to direct the client into avenues and situations where he would avoid many of his past frustrating experiences.

Group Psychotherapy

☐ To supplement individual therapy, the agency also provides group psychotherapy. In groups, the principles of the interpersonal approach, the Freudian-psychoanalytic approach, as well as the supportive approach are used. Our groups usually consist of six to eight clients who meet weekly

for a 90-minute session with a group therapist who is a clinical psychologist. We have found that group psychotherapy has several advantages. First, it allows a single therapist to treat a larger number of clients. Second, some clients may derive special benefits from group therapy that they could not get from individual treatment. Third, it offers a setting for resolving interpersonal trauma in an interpersonal setting. Finally, it offers shy, withdrawn people who are fearful of close contacts with others an opportunity to develop interpersonal comfort in a specially designed social setting.

Three types of groups

Groups fall under three large general headings (within these headings there are at least ten different types of group processes which are too numerous to mention). In exploratory group therapy the clients explore the interpersonal causes of their problem, while in supportive group therapy the major emphasis has been placed upon reassurance, explanation, educational measures, and counseling on the management of current difficulties. Inspirational group therapy, as practiced for example by Alcoholics Anonymous, is not programmed since it is an approach which uses highly moralistic and religious persuasions which would not be suitable in a multi-problem setting.

Psychodrama

☐ Psychodrama and role-playing may also be used as adjunctive group processes where there is long-range therapeutic planning, involving at least a year's participation in a rehabilitation setting. In an agency for the blind, this process seems to be of particular therapeutic value for "hard core" clients since it offers them the opportunity to think, act, and speak out feelings simultaneously in a supportive, reassuring setting.

Four types of psychodrama

A psychodrama group of eight is ideal for the blind as it offers an opportunity to have most or all of the clients participate in a given drama. The four basic types of psychodrama are:

1. Self-presentation—the client is asked to live through or portray duplicate situations which are part of daily life, especially crucial situations. He is encouraged to enact and represent as concretely and as thoroughly as possible every person near to his problem. Auxiliary egos are also assigned.
2. Soliloquy—a deeper level of interpersonal world is brought to expression. It allows for the duplication of feelings which the client actually has with a real partner but which may or may not have been expressed.
3. Spontaneous improvisation—the therapist selects clients carefully on the basis of their problems and assigns fictitious or symbolic rules for the client to act out.
4. Non-semantic level—this allows for the repression of all verbal ideas and gives the client the opportunity to respond to or with sounds, e.g., pantomime, dance, music, and nonsensical things.

Summary

☐ In conclusion, it is important to stress that while psychotherapy in a rehabilitation agency serving blind clients cannot undertake mental hygiene programming, it can still offer a comprehensive therapy program. Individual treatment, either by itself or in conjunction with group treatment, assures the client who is referred to a rehabilitation program for

the blind of a comprehensive rehabilitation program in one agency. Without a therapeutic treatment program, the client could suffer immeasurably; with one, however, evidence has revealed that not only is the entire rehabilitation process shortened considerably, but that blind clients are now leaving as better adjusted human beings whose only limitation is blindness—a limitation for which they have been compensated through the integration of their emotions and other sensory modalities.

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River Blindness Spread by Large Dams

In an article entitled "Superdams: The Perils of Progress" (*The Atlantic,* June 1972) in which the unplanned and unexpected effects produced by the building of large dams in under-developed countries are described, Claire Sterling writes, "The most vicious [of the disease-carrying insects] is the black fly, simulium, causing river blindness through [out] West Africa. Dependent on fast-flowing water with plenty of oxygen, the black fly hates the still waters of a new lake. But it quickly finds happiness downstream, where the water thunders through the dam's sluices. In Ghana, long cursed by river blindness on the Volta's banks, the affliction has not been eliminated but merely redistributed" (p. 38).

WCWB to Meet in Sao Paulo in 1974

Executive Committee Met in Moscow

The venue for the fifth quinquennial general assembly of the World Council for the Welfare of the Blind in 1974 will be Sao Paulo, Brazil, it was decided at the meeting of that organization's Executive Committee in Moscow the week of May 21st. The decision was based upon a formal invitation from officials of the Brazilian government, supplemented by remarks by Senora Dorina Nowill, president of the Fundacâo para o Livro do Cego no Brasil and one of the two members of the Executive Committee from South America.

Prevention of blindness to be an assembly theme

The specific date of the 1974 gathering is to be established and announced later, but it was generally agreed that it would occur some time in August of that year. The World Council for the Welfare of the Blind's last general assembly met in New Delhi, India, in 1969. The theme for the meeting in Sao Paulo will provide, it is planned, for major emphasis on the increasing need for prevention of blindness programs in under-developed countries and, in the educational and rehabilitative areas, for an examination of the potential benefits for blind persons under the programs of the world's organizations concerned with all people and those particularly concerned with all handicapped people.

Four-day meeting

About 40 persons attended the Moscow meeting; the four-day agenda included intensive review of a wide range of topics, from consideration of the Council's financial needs to ways and means for its committees to be more effective in attacking the continuing problem of the exchange of information throughout the world. The organization's regional committees presented detailed reports of how workers for the blind within particular geographical, language, and cultural zones have found ways to meet with each other more frequently and voice their concerns about the need for further program development in their regions.

Increase in Dues Being Considered

☐ With regard to financial matters, the Executive Committee unanimously authorized the taking of a vote by mail of all members of all national delegations to effect a constitutional amendment increasing the level of dues to be paid by each country in order for it to become or remain a member in good standing. For the past 18 years the required annual payment has been 100 U.S. dollars for each delegate to which a country is entitled, the number of such delegates being determined by the population of the country itself. The action of the Executive Committee, if approved by the mail ballot currently being conducted, will increase the level to $150. With particular reference to the United States, this action would increase the total U.S. obligation per year from $600 to $900; according to the present arrangement by which the six U.S. delegates are nominated, this cost would be shared by the Association for Education of the Visually Handicapped,

Increase from $100 to $150

the American Association of Workers for the Blind, the National Federation of the Blind, the American Council of the Blind, the Blinded Veterans Association, and the American Foundation for the Blind.

Constitutional Revisions Committee Appointed

☐ A number of other amendments to the constitution were proposed, but it was decided that the time available at the Moscow meeting was not sufficient for the Executive Committee to agree upon which of those amendments it would recommend for action by the general assembly in 1974. Therefore, Charles Hedkvist of Stockholm, the president of WCWB, appointed a Constitutional Revisions Committee to study and prepare the recommendations to be presented at Sao Paulo. The committee includes, in addition to President Hedkvist, John Colligan of the United Kingdom, treasurer; Mme. Marcelle Cowburn of Paris, secretary-general; and the five vice presidents representing large regions of the world: Hideyuki Iwahashi (Japan), Boris Zimin (U.S.S.R.), André Nicolle (France), Dr. J. W. Cookey-Gam (Nigeria), and M. R. Barnett (United States).

All Russia Society for the Blind was host agency

The members of the Executive Committee and their wives and companions were treated to a series of festive and entertaining events by the All Russia Society for the Blind, the host organization. In addition to tours of museums, cultural centers, and other points of historical interest in and around Moscow, including the Kremlin, arrangements also were made for the group to visit and inspect a number of institutions for the employment or education of blind persons. For several days following the conclusion of the official meetings, the large group was divided into smaller groups that travelled as guests of the All Russia Society to centers of interest in several of the Soviet Republics.

Meeting Coincided With U.S.-Soviet Summit

☐ At the major banquet of the week, at which Mr. Zimin presided as host, the group was conscious of the fact that not far from its gathering place there were meetings going on between U.S. President Richard M. Nixon and Soviet Party Chief Leonid I. Brezhnev who, with their respective groups of high government officials, were discussing the potential cooperation of the United States and the Soviet Union in many vital world concerns. Both Mr. Zimin and Mr. Barnett took advantage of this co-incidence to include in their toasts an expression of hope that the government leaders were speaking together in as harmonious an atmosphere as the members of the World Council had maintained and enjoyed.

Five Americans in attendance

In addition to Mr. Barnett, the other North and Central American regional members in attendance at the Moscow meeting were Judge Reese Robrahn of Topeka, president of the American Council of the Blind; Cleo B. Dolan of Cleveland, president of the American Association of Workers for the Blind; Arthur Magill of Toronto, managing director of the Canadian National Institute for the Blind; and Senora Elisa M. de Staḥl, leader in social welfare in Guatemala.

On the Use of the Inquiry Approach in Social Studies With Blind Children

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During the past few years, teachers of social studies have been gradually adjusting to changes in teaching strategies. Throughout the last decade, the "New Social Studies," advocated for example by Fenton, Senesh, Hanna, and Sabaroff, among others, has involved teachers in the adoption of a discipline-oriented approach. Numerous "Brunerized" programs have been introduced into the schools and children have been encouraged to engage in the work of historians, geographers, economists, and anthropologists. Social studies in the 1970's, as described by Shirley Engle, past president of the National Council for the Social Studies, will ". . . be brought to focus continually on social questions, problems, and issues, large and small, which youth articulates or can be helped to articulate." Engle suggests that "students will be encouraged to use more and more sophisticated conceptual tools and inquiry techniques from the Social Sciences in furthering their own problem-based inquiry."[1]

The "New Social Studies" and the blind student

How realistic is Engle's broadened concept of social studies when applied to the education of blind students? Is it pedagogically sound to expect blind students to engage in the sophisticated inquiry techniques of the social scientist? These were the questions we sought to investigate during a recent five-week study with blind students at the Jericho Hill School for the Blind, Vancouver, Canada.

The Present Study

☐ The study involved the tenth grade social studies class. The students represented a fairly heterogeneous group, coming from a variety of socio-economic and cultural backgrounds, drawn from both urban and rural areas of British Columbia and Alberta. Although the common element was their lack of sight, variations were discovered here too: cause of blindness, length of time sight had been deteriorating, time spent in the school, and age.

Students investigated pollution

It was decided that the students should select the problem to be investigated. They chose to study pollution which, although hackneyed, was interesting enough to insure adequate motivation. Having decided to attempt an inquiry approach, the initial class periods were employed in introducing the students to the inquiry method and discussing with them the development of the following procedures: a) the identification of and orientation toward the problem; b) the development of tentative hypotheses; c) the collection, organization, and interpretation of data; d) field trips arising from or relating to item c; and e) an evaluation of the hypotheses and modification of them if necessary.

Hypotheses to Be Investigated

☐ Following this introduction, newspaper articles which had been previously prepared in braille were discussed by smaller groups within the class. These articles, selected because of inherent elements of em-

phasis and urgency, served to stimulate the students, as well as inform them of the immediacy and range of the pollution problem. Discussion was animated and what had been a vague general awareness of the problem crystallized into a critical appreciation. They also wanted to know more about public understanding of the issues and public awareness of the necessity for social action. As a result of this discussion, the students suggested and agreed upon the following hypotheses: 1) the news media are making us concerned about problems arising from various kinds of pollutants; and 2) the result of this concern has created a feeling that something must be done.

Door-to-door survey

☐ It was now necessary to collect data which could be used to test these statements. If the mass media had alerted the public to the problem, the public should be consulted in some way to assess the validity of the hypotheses. Further consideration of the problem led to the proposal of a door-to-door survey to sample public opinion. During the preparation of the questionnaire to be used in the survey, all questions suggested by the students were considered and recorded. These questions were then presented to a sociologist from the University of British Columbia who visited the class to discuss the various problems that must be considered in developing a survey instrument. The questionnaire, which was transcribed into braille, included the following items:

Survey questionnaire

1. *Do you think that there is a pollution problem in the area in which you live?* Yes No Do not know
2. *Do you think that there is a pollution problem:*
   a. *in the city?* Yes No Do not know
   b. *in the coastal area of British Columbia?* Yes No Do not know
   c. *in the interior of British Columbia?* Yes No Do not know
3. *How did you become aware of the problem?*
   a. News media.
   b. Public or other meetings.
   c. Discussions with others.
   d. Personal experience.
   e. Mail.
   f. Other (specify).
4. *List some of the pollutants of which you are aware that occur: a. in your area; b. elsewhere in British Columbia.*
5. *What sources do you think produce most of the pollutants?*
6. *Identify by name any factory, mill, refinery, etc. that you think is causing some kind of pollution problem.*
7. *Who do you think is responsible for the solution of the problem?*
   a. People as citizens (i.e. social pressure).
   b. Industries.
   c. City council (i.e. by-laws).
   d. Provincial and federal governments (by legislation).
   e. Other (specify).
8. *What do you think should be done about this problem?*
   a. Public education for action.
   b. Local by-laws regarding industrial zoning requirements.
   c. Provincial and national legislation defining acceptable levels of pollution.
   d. International governments.
   e. Taxes and fines.
9. *What do you think will happen to our community if nothing is done about pollution?*

Conducting the Survey

☐ The plan of the survey included sampling opinion in three distinct areas of the city, areas reflecting a range of socio-economic levels. In order to collect an adequate sampling within the time allocated, the group was teamed with sighted students from a local secondary school who would act as guides in the unfamiliar areas where the survey was conducted. It was felt that this teaming would not only speed the process but would also provide an excellent, though brief, opportunity for both groups to experience one another. Happily, a team spirit quickly developed and was maintained throughout the survey.

Follow-up studies

Upon the completion of the survey, the students returned to Jericho Hill to analyze and evaluate the data collected. In general, the hypotheses were sufficiently validated to justify moving on to the next stage. With the class, we planned our follow-up activities.

Noise pollution

Because noise from both industry and traffic had been mentioned numerous times as a pollutant of our environment, an interview was arranged with a psychologist from the university. The students were able to discuss some of the psychological effects which might result from noise. It was interesting to note that during this period the students expressed concern over the increasing amount of sound that they experienced as they moved about the city.

Visit to City Hall

☐ Civic government had frequently been criticized in the survey for its apparent inability to exercise effective pollution control measures. Consequently, the class visited City Hall and presented the results of its survey to one of the alderman. A lengthy discussion of city policy and plans took place in the council chamber, during which time the students occupied the chairs of the council members. Possibly one of the greatest lessons learned here was that an elected representative is responsive to the feelings and wishes of the electorate who must, therefore, assume the responsibility for making their needs known. Action on public issues will result from "generating heat"—a term which permeated much of the group's thinking during the remainder of the investigation.

Trip to Pulp Mill

☐ Another trip resulted from frequent references to both water and air pollutants issuing from industrial activities. Because it was apparent that much popular opinion involved misinformation and was probably rooted in emotional reactions to talk about the toxic or disfiguring effects on the environment, we decided to interview the officials of one pulp mill that had been frequently mentioned. The nine-hour trip, involving both road and ferry travel, was demanding and tiring.

As we approached the site, evidence of what appeared to be air and water pollution was described to the students. At the mill, responsible personnel made a most generous provision of time to delineate the problems faced by industry. The chief pollution control officer and various technicians undertook to outline the difficulties, establish the framework within which they worked, and answer any questions which might be raised.

Multi-lateral view

Here again useful learning took place. Our group was faced with the

breakdown in communication which frequently occurs in similar situations. The uninformed popular views collected during the survey prompted several questions; these were answered by officials whose responses were derived from a technical and scientific understanding of the nature of the problem. In this situation it became apparent that a multi-lateral view of any such problem was necessary. Opposing views could honestly be held by both the people surveyed and the representatives of industry.

Sewage Treatment

☐ The final field trip was undertaken to provide the students with some idea of the magnitude of the problem they had been investigating. On a rather dull and rainy afternoon, the class visited the processing plant which provides primary treatment for 80 percent of Vancouver's sewage. A representative from the plant had previously visited the school to describe the processes involved. This insured a degree of readiness which enabled the group to respond effectively during the tour. At the plant the presence of a flow chart in raised plastic made the explanations more meaningful.

Student interest

Student interest, which remained high during the entire project, was further heightened by an article in the local newspaper describing their study. Had the school term not ended, the students would have presented their study to classes in the public schools and would have been interviewed on television and radio "hot lines." In the final meetings with the students, general reactions were sought both regarding the techniques employed and the learning achieved.

Conclusions

☐ Because the undertaking represented little more than a preliminary investigation, its real value may be difficult to ascertain. It was demonstrated, however, that, with relatively simple modifications, the inquiring technique could be employed effectively by a class of blind students. Through a study of documentary sources, hypotheses had been formulated. Tools for evaluation and collection of further evidence had been fashioned with professional help and employed significantly with a minimum of assistance. Through field trips and interviews with officials in both public and private sectors of the community, the investigation gained stature and significance in the minds of the students.

On the basis of this limited experience, we feel that there is adequate reason to believe that the teaching strategies suggested for social studies in the 1970's can, indeed, be used with blind students. We certainly feel that further investigation in this area is justified.

Footnote

1. Shirley H. Engle. "Exploring the Meaning of the Social Studies," *Social Education,* March 1971, p. 288.

Visually Impaired Persons in Nursing Homes

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Over half of the known visually impaired population of the United States is 55 years of age or older. In working with this group it is vital that we seek the most feasible living situation while remembering that people who are older find changes and adjustments difficult to make. Further, since these people grew up during a period when many blind persons supported themselves by begging and since visual problems also seem to have some connotation of helplessness, the very act of moving into any kind of regimented situation is proof to them that they are unable to continue living independently.

Helping in the Choice of a Suitable Home

☐ Clients often resist the difficult decision to leave the security of their own home and a familiar environment. In working with these individuals toward changing their life styles, therefore, we must always maintain an open mind and try to be flexible in the planning process. Our agency's philosophy has been to provide services which enable a person to retain his independence and hopefully to remain in his own home. When this goal is no longer tenable, however, we endeavor to help the person to move comfortably into an institutional situation. We must be realistic and recognize that it is not possible to make one plan work for all people. When a move is indicated, we maintain close contact with the client and his family, and, if necessary, provide consultation in selecting a suitable home. There are a great many kinds of nursing homes in Houston, ranging from what one might call a retirement home to a facility providing skilled and extended care.

Factors to consider

If a person feels that it is best to go into a nursing home, there are various factors to consider. For example, would he be happier located in an environment that is geographically compatible, i.e., where friends would be able and more likely to visit, and where the client might still be able to go shopping in stores formerly patronized? If a person has been active in neighborhood activities, these can sometimes be continued in a residence which is close to that neighborhood.

Temporary Institutionalization

☐ The institutional setting does not necessarily have to be a permanent solution. It may be a temporary plan to help the client convalesce after surgery. Recently a 96-year-old gentleman convalescing from a broken hip stayed in an extended care facility, but was later able to return to his own home. Another client, Mrs. G., moved into a nursing home after the onset of blindness. As she became better adjusted she moved, with the encouragement of the nursing home operator, into an apartment in a housing project, sharing it with a blind friend. Her roommate later moved and for many years she has lived alone. With the help of supportive ser-

This article is based on case findings from the files of the Social Services Department, Adult Division, Lighthouse for the Blind of Houston.

vices, including a visiting homemaker and good friends, Mrs. G. at 80 is still living a very productive life. She is active in the Lighthouse recreational programs, Sunday school, church, and another religious organization. She would like to move to another environment because of recent changes in the housing project, but accepts the fact that such a plan is not economically feasible.

Recreational programs

Our agency is working very closely with the activity directors and other key personnel in many nursing homes. Often, the nursing home staff asks for assistance in learning to work with visually impaired individuals, particularly for information on special aids and how they can be utilized. Due to location, many of the residents of these nursing homes can not participate in our recreational programs. However, the agency has clients from eight nursing homes in programs designed to offer stimulation to the older clientele, including a garden club and a friendship club. The latter has a variety of programs, sometimes involving visits to points of interest. Both of the groups have been particularly helpful to newly blinded persons and also to those who have recently moved into the Houston area. For example, one woman moved here from an eastern state; she was a shy person, but through involvement with other blind persons, she has made many new friends and is now a volunteer with a church organization.

Other programs

The programs within the nursing homes vary. In one retirement home, one resident, a former board member, has organized a reading group with volunteer readers. He has also arranged for outstanding community members to address the residents, a program which has proven to be very meaningful and stimulating, as well as providing an opportunity for him to use his leadership skills. In another setting, there is a book review group in which some of our clients participate. This is a home where a number of people have talking books and machines and enjoy sharing reading material. We recognize that talking book service is not feasible in all nursing homes, but it does prove very satisfactory for residents who have private rooms. In one large retirement complex, a client who is a minister's wife is an excellent contact person and has referred other residents for services. She interprets our programs and helps individuals in obtaining adequate reading material and in procurring special aids. She has encouraged persons with partial vision to use low vision aids. It is always beneficial if one can have a contact person in the larger retirement or nursing home settings. In addition, assuming this contact responsibility has certainly enriched this person's life.

Part-Time Employment

☐ In some homes, clients are able to handle part-time employment, including various money-earning hobbies. Several partially sighted clients in one church-sponsored home supplement their income by baby-sitting within the community. Another client, also a former board member, makes fire lighters from old magazines for use in fireplaces. She loves to give these to friends; sometimes she sells them. She also winds thread which is used by other residents. Another woman residing there does needlepoint using a magnifying glass which she hangs around her neck. For many years, one client rolled bandages in a VA hospital, while another did similar work through a church group.

Outside activities

Many activities developed within the framework of the home are included as part of the agency's general program. Nevertheless, participation in outside activities are encouraged and it is very helpful when families plan for their parents to make occasional visits home or become involved in other social activities. Too often, older parents feel alone, rejected, and neglected.

Projects and hobbies

Some homes provide areas to grow plants outdoors and some allow residents to grow things indoors. For those who like fishing, it might be possible for some to have a pond stocked with fish or to have fishing trips arranged. There are many games available through the American Foundation for the Blind. To offer a real avenue of diversion, a competitive spirit can be strengthened by contests and games, such as domino tournaments or bingo games. For those who are inclined toward religious projects, the church-sponsored bookstores offer many useful items.

A Spectrum of Challenges

☐ At this point, we are trying to develop a good program in a nursing home with patients that nobody else would accept. At the present time, there are between 15 and 20 blind persons residing there and we are working with two church volunteers who visit regularly and make referrals to us. The nurses and other staff members are becoming aware of the services which the Lighthouse can provide and are calling on behalf of some of the patients.

Talking book service

At the other end of the spectrum, a newly-opened extended-care facility designed around the concept of milieu therapy has requested services. Following an initial contact by its administrator, we have begun working closely with the activities director. A talking book machine has been assigned to this center and patrons are encouraged to use the service. Having a machine assigned on this basis is a means of evaluating the interest in the talking book service. Some reject this service, feeling that it identifies them with blindness, even though the service is available to any person with a reading problem. Exposure to the talking book service often reduces barriers of this nature.

We are very pleased with a new church-sponsored high-rise retirement apartment complex. The director, pastor of the sponsoring church, has referred numerous members for rehabilitation services. This facility would seem to be a half-way house between independent living and a nursing home. The apartments include features which are helpful to older persons, such as doors which can be opened without turning a knob. The building is located within walking distance of a shopping center and the sponsoring church and contains a "washateria" and recreational area.

A Final Word

☐ We have just scratched the surface in working with nursing homes. Additional staff is needed to promote new programs for visually impaired clients in the many nursing homes in Houston and in Harris County. In the meantime, we will continue to provide consultation to their staff members and provide direct and supportive services to residents. We must constantly strive for a closer liaison with nursing home personnel and help them to develop an awareness of the opportunities for enriching the lives of blind clients, who in their later years, find it expedient to live in a residential setting.

The Blind Teacher, Creativity, and the Multi-Sensory Classroom

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A recent review of the research in "creativity" provides a rare show of unanimity among investigators. With a single voice, the researchers have concluded that the stimuli for creative response in a classroom rests in diversified teaching strategies.[1] Divergent thinking which is closely related to creativity responds to a curriculum that encourages ambiguities, fantasizing, multiple hypotheses, the transformation of information, experimentation, and manipulation of known objects in an unaccustomed manner.[2]

Structure-of-Intellect

☐ J. P. Guilford's "structure-of-intellect," an influential model for current research into creativity, examines divergent production through the use of multivariate analyses of operation, content, and products of creative behavior. He decries the current practice of predicting academic achievement through one or two verbal or non-verbal measures and recommends a profile of scores as a more accurate picture of achievement.[3] Building on Guilford's SI model, Frank E. Williams contends that all teaching behaviors must be measured in terms of affective as well as cognitive measures. Therefore, he suggests including the affective skills of curiosity, risk-taking, complexity, and imagination into a model for implementing cognitive-affective behaviors in the classroom.[4]

Implementing the theories

A significant aspect of the research in creativity is the implementation of these theories into classroom behaviors. Taylor, Lloyd, and Rollins are concerned with broadening pupil talent rather than focusing on a narrow concept of academic talent. Their research concluded that pupils who may have academic difficulties can be encouraged to develop skills as thinkers and producers, decision-makers, communicators, forecasters, creators, composers, planners and designers, organizers, cultivators of resources, innovators, and leaders.[5]

Exploration and Innovation

☐ The opportunities for creativity as described in the research suggests that the techniques of the blind teacher closely approximates these requirements. The blind teacher provides his students with opportunities for functioning beyond the academic level.[6] The exploration of talents in decision-making, planning, organizing, leading, and development of resources are strategies which are utilized to develop a sense of success among the children and an atmosphere of trust between teacher and student. The success which blind teachers experience in producing a socialized classroom is directly related to the utilization of talents related to multiple creative skills.

☐ The author wishes to express her gratitude to Ronald I. Johnston, vocational guidance consultant, New York State Commission for the Blind and Visually Handicapped, for scholarly assistance, graciously rendered.

The multi-sensory approach

Current research in creativity has yet to explore the multi-sensory approach employed by the visually handicapped teacher as a source of creative response. It can be said that, in a way, sighted teachers are sensorily handicapped since their over-dependence on visual sensory input seriously limits the exploration in the classroom of inputs that are tactile, kinesthetic, olfactory, and auditory. William Stolper, a totally blind science teacher, observes that his students begin to explore the multi-sensory world when they observe his manipulation of laboratory materials and classroom apparatus as well as his confident management of all school procedures. His junior high school students speculate about their own sensory learnings when they observe the information yielded by Stolper's. "How does he see, when he cannot see?" Mr. Stolper capitalizes on this creative opportunity by blindfolding his students in order for them to learn to utilize a variety of sensory signals and clues.[7]

Advantages

The blind teacher's multi-sensory method is in many cases more efficient than a visually-oriented one. Sighted science students may light a Bunsen burner in a hit or miss fashion, but the blind science teacher instructs his students to *listen* for the *sound* of the gas glow signaling the optimum moment to apply the match. For children who fail to learn with a curriculum that is highly visual and verbal, the frequent use of the tangible aids utilized by blind teachers may provide an alternate mode of instruction. For other children, the aids serve to reinforce learning from visual sources.

The Blind Teacher

☐ Because tangible models are intrinsic to the background and training of blind persons, these teachers are encouraged by creative administrators to utilize a multi-sensory approach rather than to attempt to emulate the methods of the sighted teacher. When blind teachers are not constrained to teach in the same manner as sighted persons, they can explore and innovate and perhaps thereby make a significant contribution to the profession. A survey of the material available for the instruction of blind persons (e.g., sandpaper letters and numbers, raised outline maps, clay reproductions, motors and engines) yields a rich source of instruction for sighted children. These aids are an unexplored resource for concretizing abstract concepts.

"Sounds and Images"

The tie that exists between multi-sensory explorations and creative production is stressed by Cunnington and Torrance in their classroom materials, "Sounds and Images." These recordings range from familiar sound effects to strange, unaccustomed sounds. The listener is asked to think of an image and express it in a word picture. The sounds are repeated and the listener is encouraged to let his imagination roam without limit.[9] Similar exercises are possible using other sense stimuli.

New points of view

Blind or visually handicapped teachers of sighted children, through their physical presence and innovative teaching strategies, can provoke the educational community—pupils, teachers, and parents—to re-examine the signals which are received by all the senses. It is soon apparent that even when the visual input is absent it is still possible to operate

in a highly efficient manner. Since children seldom hesitate to ask questions, it is good to remember that cognitive and effective learning that is creative starts with questions that cause the pupil to look at phenomena from several different physical and emotional points of view.

Summary

☐ The innovative classroom of the blind teacher closely resembles the prototype which current research in creativity establishes. Such a classroom frees the imagination and develops skills which are broader than those seen in a traditional academic curriculum. Through multisensory explorations, pupils are offered an alternate mode of instruction, a technique for reinforcing learning from visual or verbal sources, and an opportunity to "see" in a total and all-embracing way.

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4. Frank E. Williams. "Assessing Pupil-Teacher Behaviors Related to a Cognitive-Affective Teaching Model," *Journal of Research and Development in Education* 4(1971), p. 17.
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9. E. Paul Torrance, op. cit., p. 38.

Joseph V. Hunt Retires

Joseph V. Hunt, one of the principal architects along with the late Mary E. Switzer of the federal rehabilitation program, retired on June 30 after 30 years of government service. His last post was as Deputy Commissioner of the Community Services Administration, Department of Health, Education and Welfare. Previously, he was head of the Rehabilitation Services Administration of HEW.

Realizing a Comprehensive National Policy on Aging and Blindness

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The concept of a comprehensive national policy on aging and blindness is a many-faceted, even a many-splendored, thing. It is a call for a policy which will assure that the widest range of needs expressed by both aged and blind persons be fulfilled by some combination of family, community, and governmental attention. The central thesis of these remarks is quite simple: such a national policy has not been realized because attention has been diverted away from the simple problems of living and surviving with a basic handicap. A comprehensive approach involves attention to medical treatment, prevention, rehabilitation or restoration, *and* that fourth neglected dimension—personal care services to go on living day after day, month after month when the doctor and the rehabilitation expert have each completed their tasks.

Today's Alternatives for Aged Persons

☐ Widespread evidence has been produced in many reports and studies, and in the background papers for this Conference, to the effect that those among the aged who are feeble, disabled, handicapped, or otherwise limited in their personal capacity to perform all of the functions of daily life, face one of two alternatives once medical treatment or rehabilitation has been maximally realized. A predominant policy is to ease the way for such individuals into institutions, including proprietory nursing homes. Between 1963 and 1968, the number of persons living in such institutions increased by 46 percent. The alternative is to struggle against almost insurmountable obstacles to maintain a normal way of life in a normal community, without any help other than that provided sporadically by neighbors and family. Elderly persons who are blind or visually limited share this difficulty along with the elderly who are handicapped by any other condition, physical or otherwise.

Personal care services have low priority

It is not at all unexpected that the subject of home help service, which I prefer to call a personal care service, is placed at the bottom of national policy following the provision of income, medicine, rehabilitation, and the like. This is to be expected because a personal care service emphasizes the less skilled, more homely activities which make it possible for handicapped persons to continue living in their own homes. It does not as yet have attached to it the glamour of dramatic treatment and recovery, following which all handicap disappears.

National Policy Is Needed

☐ I want to propose a firm policy that will get as much attention and support to the problems of maintaining normal existence at home for the handicapped person as is now given for medical treatment and for rehabili-

This article is based on a paper presented to the Session on Blindness, White House Conference on Aging, Washington, D.C., December 1, 1971.

tation. There are at least six million adults, half of them over 65, who are so severely disabled for physical reasons alone, including visual handicap, that they are unable to perform the functions of daily living at home without some additional assistance which goes beyond the provision of income for food, clothing, and shelter, and which exceeds the capacity or the interest of the medical professions. In order to make a national policy truly effective and comprehensive, I would urge the following:

A network of services

1. A national commitment of tax income to develop a network of personal care services throughout the country, whose major purpose would be to assist elderly blind persons, and all other handicapped persons, to maintain their own households for as long as they are capable of doing so. This network of personal care organizations could provide those most varied personal care services: shopping services, escort help, home helpers, minor home repairs, mobility assistance, transportation aides, food preparation where necessary, outreach to the isolated, etc.

Use existing agencies

2. This network of personal care services can be built upon the framework of existing agencies, be they visiting nurse associations, homemaker services, or the like. The personal care organization differs from these existing organizations in one major respect: it concentrates upon providing whatever personal care or home help services the disabled person requires, including the least skilled as well as the most skilled services.

A personal care benefit allowance

3. Personal care organizations will not come into being without firm financial foundations. I would call, therefore, for national adoption of a personal care benefit to which handicapped or disabled persons would become entitled when their ability to handle the affairs of daily life, for reasons of physical handicap, falls below an agreed-upon level. This level of disability could be set at 25 percent or 50 percent of normal capacity.

4. The personal care benefit can be administered as part of a national health insurance program, as part of the Social Security program, or as a part of any other national activity, including the adult programs of a reformed welfare system or a rehabilitation service.

Benefit Payable to Individual

☐ 5. The personal care benefit would be payable to the entitled individual by reason of his condition and would not necessarily be payable to a particular kind of agency offering a particular kind of service. The personal care benefit could be paid either by a voucher usable with an approved agency providing personal care services, or in the form of a cash benefit as now prevails with the Veterans Administration, Workmen's Compensation in some states, and Social Security systems in other countries.

Pre-payment and capitation mechanisms

6. The personal care benefit, however administered, should become payable to the provider organization on a pre-payment capitation basis. That is, the level of disability would determine the size of the benefit which thus becomes an average of the amount considered necessary to complement the individual's capacity to manage his own affairs physically. This sum, when paid in advance to the personal care organization, permits the provider and the consumer to decide what type of service is more suitable to the individual's condition. The individualizing of a person's need and service is worked out between the consumer and the

provider directly without any intermediary. The average benefit for a given level of disability should provide an incentive for providers to develop the most efficient and effective services without over-professionalization and without the over-use of highly skilled services which may not be necessary. At the same time, the average figure would make it possible for the provider organization to extend more skilled services in that small proportion of cases where that is necessary.

Time for Action

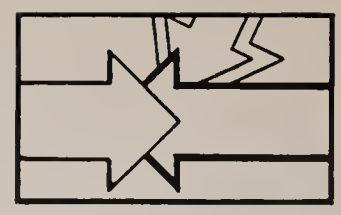
☐ The call for a home help service or for a personal care service has been frequently raised in the past. It was mentioned in the 1961 White House Conference and it was raised for years both before and after that time. The time has come, however, for a clear national commitment to see that this necessary range of limited skill, yet necessary, services is developed with as much vigor as is now devoted to the development of medical services. A personal care benefit paid for a condition and not to a particular or predetermined service, handled through prepayment and capitation mechanisms using either cash or vouchers, promises to bring into being the requisite range of personal care services now lacking.

The results of further inaction

Failure to adopt this or some comparable program for the provision of personal care organizations would only mean extension of the present system in which: handicapped and disabled persons are moved unnecessarily into nursing homes and other long-term institutions at high cost; medical providers and medical care organizations are forced to devote a disproportionate amount of high-cost, high-skill manpower to take care of persons whose needs are more simple and home-based; the effective, efficient, and economical operations of medical care and rehabilitation services are handicapped and hampered; and a large proportion of elderly blind persons must live under conditions which destroy a meaningful capacity for self-care and force them prematurely into institutional care.

Next Month in the New Outlook

The October 1972 issue of the *New Outlook for the Blind* will be devoted entirely to articles on tactual displays. First, there is a long article by Ann Middleton Kidwell and Peter Swartz Greer, two architecture students from the Massachusetts Institute of Technology, on the designing of tactual maps. Billie Louise Bentzen writes about the production and testing of an orientation and mobility map. Finally, the various strategies used by experienced blind readers in scanning and interpreting tactual displays are discussed by Edward P. Berla of the American Printing House for the Blind.



Voting Laws Affecting Visually or Physically Handicapped Persons in Federal Elections

All United States citizens 18 years of age or older have the right to vote. However, when election time comes around in the fall of each year, visually and physically handicapped persons need to know what special laws have been enacted in their state relating to their exercise of the franchise.

In order to ascertain the current regulations in each state, the editors of the *New Outlook* sent questionnaires last spring to the Department of State in each of the 50 states and the District of Columbia. The following are the results of that survey.

An individual who, because of a visual or physical handicap, cannot cast his ballot by himself may be assisted at the polls in:

Alabama (Not available. Contact state or local election officials for specific statutes or practices.)

Alaska by any person designated by him; or by any member of the election board (only one person may accompany the voter to the polling place).

Arizona by any person designated by him; or by two election officials, one from each major political party (Arizona Laws, Sect. 16-895-E).

Arkansas by the voter's spouse; or by two election judges, one each from the majority and minority parties (Acts of Arkansas 465, Article 7, Sect. 13).

California by no more than two persons designated by him (Election Code, Sect. 14423).

Colorado by any qualified voter from the same precinct designated by him; or by any one of the election judges.

Connecticut by any qualified voter designated by him; or by two election officials, each from a different political party.

Delaware by no more than two qualified voters designated by him.

District of Columbia by a precinct captain or precinct voting supervisor.

Florida by any qualified voter designated by him, if that person is from the same district and has not so acted for another person in the same election; or by two election officials (Florida Statutes, Sect. 101.051). A visually or physically handicapped voter may, when registering to vote, request a special registration identification card which permits him to have assistance in marking his ballot without making a new declaration of disability under oath at the time of voting (Florida Statutes, Sect. 97.061).

Georgia by any qualified voter from the same district designated by him, but not an election official; or by a relative, including father, mother, brother, sister, husband, wife, or child. A physically handicapped voter is allowed assistance in voting an absentee ballot by the person authorized to witness his absentee ballot (a notary public of the State of Georgia or other authority designated by law); the individual's application for an absentee ballot must be accompanied by a doctor's certificate.

Hawaii by any qualified voter designated by him; or by two election officials, each from a different political party.

Idaho by any person designated by him, including a relative; or by an election clerk.

Illinois by any relative or friend designated by him; or by two of the election officers, each from a different political party.

Indiana (for a visually handicapped person) by any person designated by him; (for a physically handicapped person) by both election judges who represent different political parties.

Iowa (for a visually handicapped person) by any person designated by him; (for a physically handicapped person) by two members of the election board, each from a different political party.

Kansas by any person designated by him.

Kentucky (for a visually handicapped person) by any person designated by him; (for a physically handicapped person) by an election clerk (Kentucky Statutes 118.300).

Louisiana by any person designated by him.

Maine by his father, mother, brother, sister, husband, wife, or child as he may select, providing said aide is of voting age and not a candidate for election; or by two election officers, not of the same political faith (except in a primary election). Title 21, Maine Election Laws, Sect. 862.

Maryland by any person designated by him, including a relative; or by two election judges, each from a different political party.

Massachusetts by any qualified voter designated by him.

Michigan by a member of his immediate family; or by any person over 21 years of age designated by him.

Minnesota by any qualified voter from the same district designated by him (no such person may assist more than three voters at any one election); or by two election judges, each from a different political party.

Mississippi by any person designated by him; or by one of the election managers (Mississippi Main Code, Volume 3, Sect. 3272).

Missouri (for a visually handicapped person) by any person designated by him from among the legal voters of the county, provided that said person has not helped another visually handicapped per-

son in that election; (for a physically handicapped person) by the judges of election (Missouri Election Laws, Sect. 111.471).

Montana by any qualified voter designated by him; or by two election officials, each from a different political party.

Nebraska by any qualified voter designated by him; or by one judge and one clerk of election, each of different political parties, one of whom shall be of the voter's own political party. If a visually or physically handicapped person is physically unable to enter the polling place, one judge and one clerk of election, each of a different political party, one of whom shall be of the voter's own political party, may take a ballot to the person within the building or to the voter's automobile (if it is within one block of the polling place) and, upon request, assist him in marking it (Nebraska Statutes, Sect. 32-460).

Nevada by election officials.

New Hampshire by any qualified voter designated by him; by no more than two persons appointed by the moderator; or by election officials.

New Jersey (for a visually or physically handicapped person) by two election officials, each from a different political party; or (for a visually handicapped person) by any person designated by him.

New Mexico by any person designated by him.

New York by a relative of his choice, including father, mother, brother, sister, husband, wife, or child; or by two election inspectors, not of the same political faith (except in a primary election).

North Carolina by any person designated by him, provided that the visually handicapped person at the time of registration or prior to the date of the election has presented a certificate issued by the North Carolina Commission for the Blind, by an optometrist, or by a physician stating that the named individual is entitled to assistance as a "blind voter"; once so registered, additional certification is not required (North Carolina Statutes 163-152.1).

North Dakota by any person designated by him; or by two election judges, not of the same political party.

Ohio by any person designated by him.

Oklahoma by any person designated by him if that person is at least 16 years of age.

Oregon by any person designated by him.

Pennsylvania by any registered elector of the election district designated by him, provided that the exact nature of the disability is recorded on his registration card; the election officers must be satisfied that at the time of election he still suffers from the same disability; before the assistance is permitted, he is also required to state under oath or affirmation the reason why he requires assistance.

Rhode Island by any person designated by him.

South Carolina by any qualified voter from the same district (called a "bystander") designated by him *and* one election manager; or, in lieu of the "bystander" and manager, by the spouse of the individual.

South Dakota (for a visually handicapped person) by any person designated by him; (for a visually or physically handicapped person) by two of the judges of election, belonging to two different political parties, if two political parties are represented upon such board. Application for assistance must be made under oath to the judges of election (South Dakota Election Laws, 12-18-25).

Tennessee by any person designated by him.

Texas by any qualified voter from the same district designated by him; or by an election clerk or judge.

Utah (Not available. Contact state or local election officials for specific statutes or practices.)

Vermont by any qualified voter designated by him; or by two assisting clerks.

Virginia by any person designated by him.

Washington by a relative who is a registered voter; or by election officials.

West Virginia (for a visually handicapped person when paper ballots are used) by any person designated by him; (for a physically handicapped person when paper ballots are used) by two poll clerks; (for a visually or physically handicapped person when a voting machine is used) by two election officiers of opposite political party affiliation; provided in all cases: that such disability is indicated on the voter's registration record; or, in the case of a visual handicap, that a doctor's certificate is presented. A voter registered as visually or physically handicapped may also be assisted in voting in absent voter's ballot by personal appearance or by mail by any voter designated by him who is registered in the county in which the disabled voter is registered (no such person may assist more than two voters in any election in voting an absent voter's ballot). West Virginia Election Code: Art. 1, Sect. 34; Art. 4, Sect. 21, Art. 3, Sects. 4 and 6.

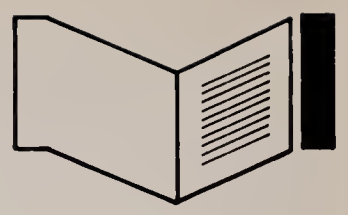
Wisconsin (for a visually handicapped person) by any qualified elector designated by him from within the county where the precinct is located; (for a physically handicapped person) by two election officials designated by him, each from a different political party. A physically handicapped person who is physically unable to enter the polling place may mark his ballot at the door with the assistance, if desired, of two precinct inspectors, each from a different political party. Wisconsin Statutes, Sect. 6.82.

Wyoming. No legal provision. The customary procedure is for two checkers (one Republican and one Democratic) to be assigned to the visually handicapped voter to assist him in marking his ballot.

The American Foundation for the Blind is distributing the above information to radio stations and newspapers throughout the country so that it will reach as many handicapped people as possible.

Copies of this feature are available on request from the New Outlook for the Blind, *15 West 16th Street, New York, New York 10011.*

Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind prepared by Mary Maie Richardson, chief librarian.

Visual Phenomenology in Recently Blind Adults, by Roy Fitzgerald. *Southern Regional Review Blind Welfare* (Southern Regional Association for the Blind, 14 Howick Place, Westminster, S.W. 1, England), No. 55, March 1972, pp. 1-8. Abridged version of a paper presented at the annual meeting of the American Psychiatric Association in San Francisco, May 1970. The research reported upon concerned psychosocial factors in reactions to blindness and was conducted in London with 66 recently blind adults.

Methods of Producing Embossed Material, by C. W. Garland. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London WIN 6AA, England), Vol. 56, No. 658, February 1972, pp. 33-35. Brief survey of methods used at RNIB for the production of braille, Moon type, and diagrams.

Problems in the Standardisation of Design and Symbolisation in Tactile Route Maps for the Blind, by Grahame James. *The New Beacon* (see address above), Vol. 56, No. 660, April 1972, pp. 87-91. The author is a member of the Blind Mobility Research Unit, Department of Psychology, University of Nottingham in England. His research is being financed by the Medical Research Council.

Study of Graduates in the Education of the Visually Disabled, by Mel W. Weishahn. *Exceptional Children* (The Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 S. Jefferson Davis Highway, Arlington, Virginia 22202), Vol. 38, No. 8, April 1972, pp. 605-12. Study of responses by 51 graduates to a questionnaire designed to identify areas in need of improvement in the field of teacher preparation.

How to Deal with Blindisms, by Lowell Holland. *The Long Cane News* (Institute of Blind Rehabilitation, Western Michigan University, Kalamazoo, Michigan 49001), Vol. 4, No. 5, November 1971, pp. 24-27. The author, who is supervisor of the Kansas Rehabilitation Center for the Blind in Topeka, discusses techniques for dealing with blindisms in adults.

The Chromatone Color-to-Sound Conversion System, by George A. Work. *The Long Cane News* (see address above), Vol. 4, No. 5, November 1971, pp. 28-29. Brief description of the Chromatone System which translates visible colors into combinations of audio tones. Information on the current status of the system can be obtained from the author who is general manager of the Malibu Scientific Co., P.O. Box 475, Malibu, California 90265.

Portable "Seeing Eye." *Science Digest* (575 Lexington Avenue, New York, N.Y. 10022), Vol. 71, No. 5, May 1972, pp. 86-87. Brief description of the latest version of the "Vision Substitution System" developed by Paul Bach-y-Rita and Carter C. Collins.

Visually-Handicapped Persons Play Baseball, by George Brownson. *CCB Outlook* (Canadian Council of the Blind, 96 Ridout Street South, London 16, Ontario, Canada), Vol. 25, No. 2, April 1972, pp. 20-22. Detailed description of equipment and rules in baseball as adapted for the blind by Joe Lewis, director of recreation at the British Columbia-Yukon Division of the Canadian National Institute for the Blind.

There's a Wheelchair in the Woods, by Edward H. Stone. *Parks and Recreation* (National Recreation and Park Association, 1700 Pennsylvania Avenue, N.W. Washington, D.C. 20006), Vol. 6, No. 12, December 1971, pp. 19-21, 48-49. Report by the chief landscape architect of the Forest Service, U.S. Department of Agriculture, on the expansion of recreation facilities for the handicapped. The Roaring Fork Braille Trail, Whispering Pines Nature Trail, and the Catalina Desert Trail are described along with other recreation areas.

The Chicago Public Library: Services for the Blind and Physically Handicapped, by Alexander Skrzypek. *Illinois Libraries* (Illinois State Library, Springfield, Illinois 62706), Vol. 54, No. 4, April 1972, pp. 296-300. The author is the regional librarian in Chicago.

Computer Services for the Blind, by Emerson Foulke. *The Braille Monitor* (National Federation of the Blind, 2652 Shasta Road, Berkeley, California 94708), May 1972, pp. 207-10. Description of the ARTS System (Audio Response Time-Sharing) developed by Dr. Kenneth Ingham at the Massachusetts Institute of Technology. The system utilizes a time-sharing computer to perform a wide variety of services for blind users. Arrangements are underway to supply the service to clients in the greater Boston area, but Dr. Ingham hopes to establish the ARTS System throughout the United States.

"I Love My Garden," by Trevor Tatchell. *St. Dunstan's Review* (191 Old Marylebone Road, London NW1 5QN, England), No. 629, April 1972, pp. 8-10. A British veteran, blinded in World War II, tells of his somewhat unorthodox gardening methods. His article was originally published in *Occupational Therapy* in August 1971.

A Tribute to Courage, by Max Robinson. *The BVA Bulletin* (Blinded Veterans Association, 2121 P Street, N.W., Washington, D.C. 20037), Vol. 27, No. 3, May-June 1972, pp. 4-7. The story of Robert A. Bottenberg, honored this past spring as Handicapped American of the Year. Dr. Bottenberg who today is chief of the Computer and Management Sciences Branch,

Personnel Research Division, Air Force Human Resources Laboratory, lost his sight as well as some of his hearing in World War II.

It's Not All in the Cards, by Reneé Reed. *Dialogue* (3100 Oak Park Avenue, Berwyn, Illinois 60402), Vol. 11, No. 2, Summer 1972, pp. 88-91. Miss Reed relates her own experiences in achieving independent travel.

An Early Childhood Curriculum for Multiply Handicapped Children, by Regina Schattner. John Day Company (257 Park Avenue South, New York, N.Y. 10010), 1971, 143 p. $4.98. Chapter 9, "The Partially Sighted Child" (pp. 100-5) and Chapter 10," The Blind Child" (pp. 106-13) both concern special materials, especially those for teaching reading.

Parental Attitudes Toward Exceptional Children, by Harold D. Love. Charles C Thomas (301-327 East Lawrence Avenue, Springfield, Illinois 62703), 1970, ix + 167p. $9.50. Book designed to help educators, physicians, psychologists and others who counsel parents of exceptional children. Chapter 8 (pp. 127-46) concerns parental attitudes toward the deaf child and the blind child.

A Handbook for Parents of Deaf-Blind Children, by Jeanne Esche and Carol Griffin. Michigan School for the Blind (Deaf-Blind Department, 715 W. Willow, Lansing, Michigan 48906), n.d., 24p. This guidebook for parents is divided into sections—early months, walking, eating, disciplining, play and toys, etc.

The Development of a Syllabus for Instruction of Communicative Skills in a Rehabilitation Center for the Blind, by J. O. Murphy, project director. Little Rock, Arkansas: Arkansas Enterprises for the Blind, Inc., June 30, 1969. 111p. (Available from Leasco Information Products, Inc., 4827 Rugby Avenue, Bethesda, Maryland 20014. Order #ED 054 326; Microfiche—65¢; Hard Copy—$6.58) Final report on Research and Demonstration Project No. RD-2618-S-'68 from Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare. Eight areas concerning communication skills were investigated: (1) braille usage; (2) reading by listening; (3) reading by use of residual vision; (4) handwriting; (5) typewriting; (6) oral communication; (7) arithmetic and skills of computation; and (8) equipment and furniture.

Binocular Visual Acuity of Children:Demographic and Socioeconomic Characteristics, United States. National Center for Health Statistics, Health Services and Mental Health Administration, U.S. Public Health Service. *Vital and Health Statistics* (Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Series 11, No. 112, DHEW Publication No. (HSM) 72-1031, February 1972, iv + 33p. 45¢ Results of the Health Examination Survey of 1963-65 for a probability sample of 7,317 children 6-11 years of age, presented by age, sex, race, region, size of place of residence, rate of population change in size of place from 1950 to 1960, family income, education of parents, and grade in school.

The books listed below will be the subject of special reviews in future issues of the *New Outlook:*

To Race the Wind: An Autobiography, by Harold Krents. G. P. Putnam's Sons (200 Madison Avenue, New York, N.Y. 10016), 1972, 282p. illus. $6.95.

Coping with the Unseen Environment: An Introduction to the Vocational Rehabilitation of Blind Persons, by Herbert Rusalem. Teachers College Press (1234 Amsterdam Avenue, New York, N.Y. 10027), 1972, xi + 361p. $11.50.

Elizabeth, by Sharon Ulrich with Anna W. M. Wolf. University of Michigan Press (615 East University, Ann Arbor, Michigan 48104), 1972, 122p., illus. $4.95.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other materials of interest to the readers of the New Outlook for the Blind *prepared by the editors.*

Agency Administration

A Manual for Students: Volunteering and **A Manual for Communities: Student Volunteers** (Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), 40¢ each, both published by the National Student Volunteer Program and VISTA to promote the establishment and success of volunteer programs using college students.

National Experiment in Staff Development (NESD). *Social Casework* (Family Service Association of America, 44 East 23rd Street, New York, N.Y. 10010), vol. 53, no. 4, April 1972. A special issue on NESD II, a two-and-a-half-year program funded by the National Institute of Mental Health in in which five member agencies of the Family Service Association of America participated. Includes the following articles: "Education for Change," by Pauline C. Cohen; "An Agency's Preparation for Internal Advocacy," by John M. Howley, Jr.; "A New Dimension in Staff Development Programs," by Lucille T. Levitan; "An Administrator's Evaluation," by Frances A. Kopple; "Maximum Utilization of Staff Education Seminars," by Henry Ovadia; "Facilitating Program Development by Staff Study," by Louise Koch; "Staff Education in Systems Change," by William A. Bell; "The Dynamics of Agency Change," by Rino J. Patti and Herman Resnick.

Recruiting, Training and Motivating Volunteer Workers, by Arthur R. Pell. Pilot Books (347 Fifth Avenue, New York, N.Y. 10016), 64p. $2.50.

Aging

HUD Programs for Housing and Related Facilities Which Are Available for the Elderly. U.S. Department of Housing and Urban Development (Washington, D.C. 20410). A pamphlet listing rental housing, home ownership, rehabilitation, nursing home and hospital, and related programs of HUD and the program goal, eligible clients and sponsors, where to apply, and financial aid for each one. Available from the Washington office or from the Department's regional and area offices.

Architecture

Selected Rehabilitation Facilities in the United States: An Architect's Analysis, by Thomas K. Fitz Patrick, F.A.I.A. Rehabilitation Services Administration, U.S. Social and Rehabilitation Service (Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), 60p. 65¢ "This publication is based on a research study which attempted to seek out and identify the rehabilitation facilities in the United States where new and progressive concepts in programming for rehabilitation are in operation or under consideration. The fundamental objective of this study was to formulate, in a reference document, the most advanced ideas in the planning and design of rehabilitation facilities."—From the Introduction.

Directories, Catalogs, Lists

Directory of Services for Visually Handicapped in Southern California. Southern California Chapter of the American Association of Workers for the Blind (available from Kent Wardell, AAWB Directory Editor, c/o Special Education Department, California State College, Los Angeles, California 90032) 2nd ed., 1972, iv+42p. $1.00.

Medical Sciences

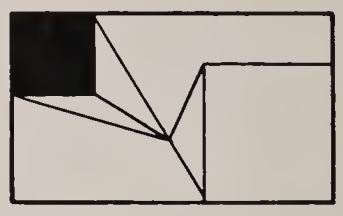
Cataract Surgery: A Different Tune, by Brian Vachon. *Saturday Review,* April 15, 1972, pp. 45-49. A profile of Dr. Charles Kelman, a prominent New York ophthalmic surgeon, describing his development of the phaco-emulsification and aspiration technique for cataract removal.

Pamphlets

Reading With Low Vision, by the American Optometric Association in cooperation with the Library of Congress (available from Optometric Development Enterprises, 7000 Chippewa Street, St. Louis, Missouri 63119). This new eight-page pamphlet explains the many special techniques that optometrists use to help make reading possible for low vision patients, plus a full description of the services available from the Division for the Blind and Physically Handicapped, Library of Congress. Bulk prices: $7.50/100; $34/500; $48/1,000; plus postage.

Living With Blindness, by Irving R. Dickman. Public Affairs Committee, Inc. (381 Park Avenue South, New York, N.Y. 10016), Pamphlet No. 473, 28p. 25¢.

Letter to the Editors



Teaching as a Career for the Blind

To the Editors:

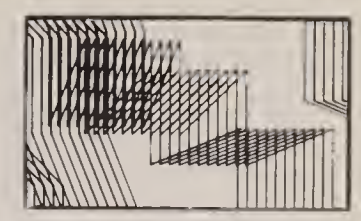
I thought that the article "Public School Teaching as a Career for the Blind: Mythology and Methodology," by Dr. Kenneth Cross *(New Outlook,* February 1972, pp. 43-49), was absolutely one of the finest statements on the topic I have ever read. That may be in part because I agree with it so thoroughly, and I know that there are those who object to admitting that blindness imposes any limitations at all. But I am convinced that Dr. Cross will be more believable to the sighted people who hire teachers than the absurd optimists.

I would like to have two reprints of his article if I may, and I would strongly urge that you try to get it reprinted in some journal that gets into the hands of superintendents or principals, or whoever is in charge of hiring. Also heads of education departments at universities and colleges who decide whether or not blind people are to go into teaching. I passed along a taped copy of the article to a blind college girl here who wants to go into teaching, and I want to give a print copy to the head of our education department.

I was blinded in 1945, during the war; took eight years of college after that, and have been teaching speech and communication and mass media here at Cornell College ever since 1953. No day goes by for me without some awareness of limitations or frustrations, but they usually end on the plus side. The best advice I ever had was from a graduate advisor who told me to get my Ph.D., get experience, and publish something, because to get a job I'd have to be better prepared than my competition. He, like Dr. Cross, was right.

Walter F. Stromer, Ph.D.
Assistant Professor of Speech
Department of Theatre and Speech
Cornell College
Mount Vernon, Iowa

Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1,000 words in length.*

The Deaf, the Blind—and the Movies

Joseph Wiedenmayer

Young deaf people will never know how wonderful it was to attend and understand the movies at the local theater long before World War II. Those were the years of silent, captioned movies which could be enjoyed by both deaf and hearing people. Later on, when sound movies and eventually television came in, captioned films went out—never to be seen again except for those pictures now available from Media Services and Captioned Films of HEW.

But these HEW films are, of course, not available in any regular motion picture theater because captioned films for the deaf are not commercial. They are distributed free. The result of this electronic "progress" with the introduction of sound in motion pictures and television programs was both good and bad.

Hearing people among the blind who couldn't see the old silent, captioned movies could now hear the audio presentations, while deaf people among the sighted could see the visual part. But understanding only the audio or only the visual parts without captions is certainly not getting full value from public media services which are supposed to ascertain and reflect the needs of the total community, according to a Federal Communications Commission regulation. Although television is free, until the coming of paid TV, it still remains a public service. In the movie theaters, it is another matter. Ticket prices are excessive today, particularly for those who can't see or can't hear.

Therefore, I suggest a 50 percent discount on all movie tickets for such people who would like to go to the movies regardless of their physical limitations.

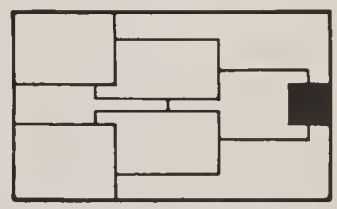
National organizations concerned with the deaf and the blind could process individual applications and issue certifications to profoundly deaf or legally blind people that would be recognized and accepted by all motion picture theaters.

Something is now done with respect to train travel discounts for escorts traveling with blind people. The American Foundation for the Blind issues wallet-size cards certifying that the holder is legally blind. These are issued on the basis of reports from ophthalmologists and permit the companion of the blind person to travel free, which of course amounts to a 50 percent discount for the two persons.

Is this suggestion for cut-price movie tickets worth further consideration by the deaf and the blind communities? Would you accept such a discount? Please send your comments to "Comment," New Outlook for the Blind, 15 West 16th Street, New York, New York 10011.

Mr. Wiedenmayer, who retired in 1965 after 22 years with the U.S. Diplomatic Service, is both hard of hearing and legally blind. He is a trustee of the Memphis Foundation of Otology, a consultant to the Alexander Graham Bell Association for the Deaf, national chairman for education of the Retinitis Pigmentosa Foundation, and director of the new Hearing Disability Study being conducted by Ralph Nader. These remarks have also appeared in the Deaf American.

Editorial Notes



National Interorganizational Coordinating Committee

The mutual concern which all organizations for and of the blind voice is sometimes obscured by factors which stand in the way of mutual effort. Recently, over a period of the past two to three years, it appears that the leadership of such organizations have at least admitted that some process should be developed through which all such organizations can retain their individuality but at the same time work together for the common good of the nation's program of services for blind people.

The *New Outlook* and other journals have reported in recent months the emergence of such an effort, namely, a loosely knit body which calls itself the National Interorganizational Coordinating Committee. Except for a brief summary of its discussions, compiled only for the benefit of the members themselves, the group has not as yet acted in a positive or public manner about any of the known needs of our field.

At its most recent meeting, held in Boston on Sunday, April 9, 1972, however, frank exchanges revealed that the group

feels now that it actually can enunciate positions with complete agreement. For example, it is felt that as a group which is independent of governmental involvement, it can provide a strong voice about the potential influence for progress that the new National Advisory Committee on Services for the Blind and Visually Handicapped can have with the Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare.

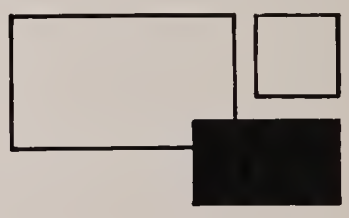
It was agreed as well last April that officers of national programs, be they governmental or voluntary, would be invited from time to time to present to the group their particular need for support from a united group of voluntary organizations. The next meeting of this committee will occur this fall. Since I will be taking my turn as chairman for this session, I would like, on behalf of the committee, to extend an invitation for individuals to send us such topics that might appropriately be discussed and/or acted upon.

For those who have not noted the earlier reports, the group is made up of the principal officer of the American Association of Workers for the Blind, the Association for Education of the Visually Handicapped, the National Federation of the Blind, the American Council of the Blind, the Blinded Veterans Association, the National Council of Executives of State Agencies for the Blind, and the American Foundation for the Blind. (It is also interesting to observe that, with the exception of the Council of State Executives, these are the same organizations who comprise, through their nominees, the membership of the United States delegation to the World Council for the Welfare of the Blind.)

Editorially speaking, therefore, we believe that this effort by the very groups which are often criticized for their competitive rivalry is an honest search for an objective basis for real cooperative activities. The ideas of practitioners and laymen in this field are welcome.

—M. R. B.

News in Brief



■ On April 3, the provision of library services for handicapped persons in Maine was officially begun by the Maine Regional Library for the Blind and Physically Handicapped, a division of the State Library in Augusta. Headed by Mrs. Carolyn Cornett, the new library is the 51st to join the national network of regional libraries cooperating with the Division for the Blind and Physically Handicapped of the Library of Congress. Four subregional libraries, one each in the public libraries in Bangor, Lewiston, Portland, and Houlton, have also been established. Only talking book services are being provided by the Maine library; braille readers in the state will continue to receive material from the Library of the Perkins School for the Blind, Watertown, Massachusetts.

■ In *Medical World News* (May 26, 1972), surgeon Peter R. Laibson of the Wills Eye Hospital, Philadelphia, warns that physicians often underestimate the dangers of gonorrheal conjunctivitis in adult patients. The use of penicillin in an insufficient amount results in a return of the infection in a more virulent form and more serious damage to the eyes. Only prompt and vigorous treatment, Dr. Leibson emphasizes, will prevent unnecessary impairment of vision.

■ In January 1973, Community at Marlboro, a co-educational, nonsectarian, 12-month residential rehabilitation program for the developmentally disabled, will be established in a residential neighborhood near Marlboro, Massachusetts, by the Community Group, a wholly-owned subsidiary of Mutual Enterprises, Inc. The Community is headed by Lars Guldager, former assistant principal at the Perkins School for the Blind and coordinator of the New England Center for Services to Deaf-Blind Children; it will be open to retarded blind, deaf, and deaf-blind adults 16 years of age or older. The goal is to develop each person's capabilities to the fullest extent in an environment that is conducive to personal dignity and the development of the abilities, habits, and attitudes required by contemporary society. More detailed information is available from the Community Group, 120 Wells Avenue, Newton, Massachusetts 02159.

■ According to a report in *Publishers Weekly* (March 6, 1972), the late Allan Nevins, well-known historian, author, and teacher, willed $25,000 plus all future royalties from his many books to Columbia University to aid handicapped students.

■ Ruth C. Smith, licensing supervisor in the Los Angeles Regional Office of the State Department of Social Welfare and a pioneer in the development of the department's eye surgery program to prevent blindness among the needy in California, has retired after 30 years of state service.

■ J. Malvern Benjamin, Jr., president of Bionic Industries, Inc., of Bala-Cynwyd, Pennsylvania, was granted patent 3,654,477 last April for an obstacle detection device consisting of spectacles fitted with lasers. The patent for this invention, which is still in the laboratory stage, is owned by the Veterans Administration. Bionic Industries has been conducting research on electronic mobility devices for blind persons for 15 years and is now producing the laser cane (of which Mr. Benjamin is co-inventor) for the Veterans Administration.

■ VISION, a new project of the Pennsylvania State Bureau for the Visually Handicapped, is designed to help persons with sight problems to overcome their difficulties. The project, which is supported by state and federal funds, consists of an intensive campaign to locate visually handicapped persons in Pennsylvania and to inform them of available services. Ralph E. Beistline, bureau director, said the information campaign would include the mass media, as well as posters and other printed materials displayed at, or distributed by, snack bars operated by blind persons throughout the state.

■ According to Robert E. Howard, director of the California State Department of Rehabilitation, the administration of vocational rehabilitation services for the blind will be changed to the program manager concept of administration. Speaking before the National Federation of the Blind of California at its May convention in Sacramento, Mr. Howard explained that under the new system the program manager is able to cut across administrative lines in the department to give strong leadership and direction in the rehabilitation of the blind.

To assist the program manager, the department is also establishing a field assistant manager for the blind in each of the department's four geographic regions. The administrator of the Orientation Center for the Blind in Albany will also report to the program manager.

■ Last May, the Wadsworth Atheneum, an art museum in Hartford, Connecticut, opened its Tactile Gallery, an innovative program intended to develop perceptual ability in the non-visual senses for both blind and sighted persons. Mary Lyn Ray, curator of the new programs said, "The name 'Tactile Gallery' is somewhat misleading. Emphasis of the program has shifted from substituting touch for sight to exploring the many dimensions of non-visual perception. . . . What we intend is not so much to chart the chronology of art history as to discover an aesthetic dialogue."

The Tactile Gallery is the result of a project begun in 1967 at the suggestion of Mrs. D. Sergeant Pepper, chairman of the Ladies Visiting Committee, Connecticut Institute for the Blind. The Hartford Lions Club investigated the proposal and, once it was accepted by the Atheneum, the 43 Lions Clubs of District 23B pledged the full installation costs and operating expenses for three years. An advisory group, including staff from the Oak Hill School, blind students and adults, and professionals, assisted in setting up the program.

The gallery includes an exhibition room of 580 square feet, a seminar workshop room, and curator's office. Four exhibitions per year are projected. Specially trained volunteers from the museum's Docent Council, Ladies Visiting Committee, and Lions Clubs serve as gallery attendents, provide transportation, and transcribe braille literature.

■ A project to record books on the history of Rhode Island, particularly on the colonial period, for blind and physically handicapped readers has been instituted by the Volunteer Tape Program, a joint effort of the Rhode Island Association for the Blind and the Regional Library for the Blind and Physically Handicapped, both in Providence.

■ The Prelude Project, a three-year innovative development program being conducted by the Hadley School for the Blind, Winnetka, Illinois, with a $65,000 research grant from the Spencer Foundation, will develop and pilot teach a basic cluster of short, clear, practical correspondence courses to help the average blind person achieve higher levels of personal competence and independence. According to Dr. Richard Kinney, executive vice president of Hadley, the Prelude courses will include concentrated study of relevant braille, typing, speech, listening, and "pocketbook" mathematics, all subjects of vital daily concern to the blind citizen.

■ The Minneapolis Society for the Blind has begun to offer placement services and occupational information to blind and visually handicapped persons actively enrolled in its occupational training program through an agreement with the Minnesota State Services for the Blind and Visually Handicapped, the primary source of referrals for the program. Randall Bundy, a training skills instructor in the Society's occupational training program, has been named placement counselor. The placement process includes the development of on-the-job training sites for visually handicapped persons in local industry, the orientation of the individual to the demands of the job, and information provided to the employers concerning the individual's ability and special needs. Public employment agencies, the Manpower Services Job Bank, organized labor, and industrial and business resources are being utilized for job openings.

■ A new project of the Division for the Blind and Physically Handicapped, Library of Congress, is the compilation of a bimonthly talking book magazine devoted to reprinting those periodicals aimed specifically at handicapped persons. Called *Encore*, the magazine includes *Accent on Living, ADA Forecast* (for diabetics), *Paraplegia News, Performance,* and *Rehabilitation Gazette*. It is issued on an 8 rpm disc and is currently available to borrowers from the regional libraries for the blind and physically handicapped.

■ On July 1, 1972, the Catholic Guild for All the Blind, Newton, Massachusetts, became the Carroll Rehabilitation Center for the Visually Impaired. The change in name was made in honor of the late Rev. Thomas J. Carroll, executive director of the Guild for nearly 25 years.

■ On June 6, 1972, Neil Reiser, director of development and public relations for the New York Association for the Blind, New York City, for 20 years, died suddenly. He was 60 years old.

■ As a part of its involvement in the prevention of blindness field, the American Foundation for Overseas Blind, New York City, has undertaken a nutritional program designed to prevent eye diseases among preschool children in Africa, Asia, and Latin America. The key to the project is the inclusion of massive doses of vitamin A, considered a vital nutrient in sight preservation, especially for growing children. Fortification of basic food supplies with vitamin A and nutritional education are other integral facets of the program. The Foundation plans to implement the program through

EVA-TONE THIN VINYL SOUNDSHEETS...
LOW COST COMMUNICATION TOOL FOR THE BLIND

This year the Library of Congress Division for the Blind and Physically Handicapped has used over 1 million Evatone Soundsheets. This is the fourth year that soundsheet inserts are being used in TALKING BOOK TOPICS, and now US NEWS AND WORLD REPORT publishes its magazine weekly on Evatone Soundsheets. They record two hours of news on each soundsheet which is played at the 8-1/3 rpm speed.

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Appointments

■ U.S. Department of Housing and Urban Development: **Mercer L. Jackson, Jr.,** assistant to the Secretary for programs for the elderly and handicapped.

■ Pennsylvania Association for the Blind, Pittsburgh Branch: **Mrs. Jean Wolf,** volunteer coordinator.

■ Montgomery County Association for the Blind, Norristown, Pennsylvania: **Ray Smyth,** executive director.

■ Advisory Committee on Older Americans, U.S. Department of Health, Education, and Welfare, new members: **Fred Cottrell, Ph.D.,** Miami University, Oxford, Ohio; **Thomas F. Frist, Sr., M.D.,** founder of the Tennessee Council on Aging, Nashville; **Mrs. Cernoria Dolores Johnson,** National Urban League, Washington, D.C.; **Peter MacDonald,** Navajo Tribal Council, Window Rock, Arizona; vice chairman of the committee, **Miss Bertha Adkins,** former undersecretary of HEW.

■ American Foundation for Overseas Blind, New York City: **Harold G. Roberts,** associate director (he remains associate director for service of the American Foundation for the Blind); **Raymond D. Relaford** of Brooklyn Park, Minnesota, rehabilitation counselor (for a nine-week assignment in Israel, followed by a two-year assignment in Turkey).

■ American Foundation for the Blind, New York City: **Mrs. Susan Jay Spungin,** specialist in education.

■ Technical Advisory Committee on Aging Research, U.S. Department of Health, Education, and Welfare, members: chairman, **Fred Cottrell, Ph.D.,** Miami University, Oxford, Ohio; **Elinor J. Barnes, Ph.D.,** psychologist and social researcher, University of Arizona; **H. Robert Bartell, Jr., Ph.D.,** specialist on pension funds, Illinois; **George McSpadden Briggs, Ph.D.,** nutritionist, University of California at Berkeley; **Eveline M. Burns, Ph.D.,** economist, New York University; **Elias Cohen,** social planner, University of Pennsylvania School of Medicine; **Herold Christian Hunt, Ed.D.,** Charles William Eliot Professor of Education Emeritus, Harvard University; **Walter C. McKain, Ph.D.,** sociologist, University of Connecticut at Storrs; **Robert Morris, D.S.W.,** social planner, Brandeis University; **Bernice L. Neugarten, Ph.D.,** University of Chicago; **Marvin B. Sussman, Ph.D.,** Western Reserve University; **Wendell Monson Swenson, Ph.D.,** clinical psychologist, University of Minnesota; **Seldon P. Todd,** statistician and research manager, Minneapolis; **Lennie-Marie P. Tolliver,** psychiatric social worker, University of Oklahoma; **Hsioh-Shan Wang, M.D.,** psychiatrist, Duke University Medical Center; and **Paul Dudley White, M.D.,** cardiologist and heart surgeon, Boston.

■ Pennsylvania State Department of Public Welfare, Bureau of Special Programs: **Stephen H. Male,** director.

■ Perkins School for the Blind, Watertown, Massachusetts: **Maurice Tretakof,** director, Department for Deaf-Blind Children.

■ New England Center for Deaf-Blind Children, Watertown, Massachusetts: **John Sinclair,** coordinator.

■ Phoenix Center for the Blind, Arizona: **David Beard,** orientation and mobility specialist; **Mrs. Mary Sue Wamsley,** rehabilitation teacher.

■ Center for the Blind, Philadelphia: **Mrs. Florence Biben,** director, prevention of blindness department.

■ Council on Social Work Education: **Richard Lodge,** executive director.

■ National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, New York City: president (by election), **Peter J. Salmon,** administrative vice president, Industrial Home for the Blind, Brooklyn.

Awards

■ President's Committee on Employment of the Handicapped, Handicapped American of the Year: **Dr. Robert A. Bottenberg,** chief, Computer and Management Sciences Branch, Personnel Research Division, U.S. Air Force Human Resources Laboratory, San Antonio, Texas, and former national president of the Blinded Veterans Association.

■ Publicity Club of Chicago, Golden Trumpet Award: **Mrs. Jean Ridenour,** Hadley School for the Blind, Winnetka, Illinois.

■ Center for the Blind, Philadelphia, Louis Braille Award: **Arthur C. Kaufman,** member of the Center's Citizens Advisory Committee and numerous other community organizations and president of Arthur C. Kaufman & Associates, management consultants, Philadelphia.

■ Recording for the Blind, New York City, 1972 Scholastic Achievement Awards to four outstanding college graduates who are blind: **Alan R. Downing,** Needham Heights, Massachusetts (Massachusetts Institute of Technology); **Eric D. Kloss,** Pittsburgh (Duquesne University); **Keiko Maruko,** Chicago (University of Illinois, Champaign); and **Clifford E. Blackwell III,** New Canaan, Connecticut (Beloit College).

■ Girl Scouts of America, gold trefoil for 50 years in Girl Scouting: **Mrs. Flora T. Arthur,** leader of Girl Scout Troop No. 154, Overbrook School for the Blind, Philadelphia.

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Coming Events

September 1-8 American Psychological Association, Honolulu.

September 4-8 Fourth International Health Conference, Royal Society of Health, Dublin.

September 5-8 American Public Welfare Association, Northeast Regional Conference, San Juan, Puerto Rico.

September 11-12 Gerontology Around the World, 25th Annual Conference on Aging, University of Michigan, Ann Arbor.

September 19-22 American Public Welfare Association, Southeast Regional Conference, Biloxi, Mississippi.

September 20-21 National Council for Homemaker-Home Health Aide Services, Regional Meeting, Boston.

September 20-22 American Association of Workers for the Blind, New England Regional Conference, Hyannis, Massachusetts.

September 23-27 National Rehabilitation Association, Annual Conference, San Juan, Puerto Rico.

September 24-27 Eastern Conference of Rehabilitation Teachers, Philadelphia.

September 24-28 American Academy of Ophthalmology and Otolaryngology, 77th Annual Meeting, Dallas.

September 28-30 American Association of Workers for the Blind, Western Regional Conference, San Francisco.

October 1-6 Fifth International Congress on Mental Retardation, Montreal.

October 1-7 Employ the Handicapped Week.

October 4-6 International Senior Citizens Association, Fifth International Congress, Strasbourg, France.

October 4-6 New York State Federation of Workers for the Blind, Annual Meeting, New York City.

October 8-12 First International Conference on Education in the Health Sciences, The Hague, Netherlands.

October 14-17 Audio Engineering Society, New York City.

October 14-19 American Academy of Pediatrics, 41st Annual Meeting, New York City.

October 15-18 American Association of Homes for the Aging, 11th Annual Meeting and Conference, Kansas City, Missouri.

October 15-20 American Nursing Home Association, Atlanta.

October 15-21 National Rehabilitation Training Institute, Miami Beach.

October 22-25 American Public Welfare Association, Western Regional Conference, Phoenix.

October 22-28 American Occupational Therapy Association, Los Angeles.

October 26 American Foundation for the Blind, Foundation Day, New York City.

November 1-3 American Association of Workers for the Blind, Middle Atlantic Regional Conference, Washington, D.C.

November 3-4 Audio-Tutorial Congress, Fourth Annual Conference, Columbia, South Carolina.

November 8-13 National Association for the Education of Young Children, Atlanta.

November 12-15 Public Relations Society of America, 25th National Conference, Detroit.

November 13-17 American Public Health Association, Annual Meeting, Atlantic City, New Jersey.

November 15-18 National Easter Seal Society for Crippled Children and Adults, Annual Convention, Chicago.

November 16-17 National Council of Homemaker-Home Health Aide Services, Regional Meeting, San Francisco.

November 16-22 Adult Education Association, Minneapolis.

December 1-2 "The Therapeutic Community in Geriatric Care," a workshop conducted by nursing home consultants (Lawrence Lazurus, M.D., Sylvia Schmidt, A.C.S.W., Andrea Lazurus, R.N., Harriet Turner, A.C.S.W., and Margaret Smith, R.N.), San Francisco.

December 11-19 Council for Exceptional Children, Career Education Conference, New Orleans.

December 14-19 American Academy of Optometry, Annual Meeting, New York City.

December 17-20 Gerontological Society, 25th Annual Scientific Meeting (in conjunction with the American Geriatrics Society), San Juan, Puerto Rico.

1973

January 28-February 3 American Library Association, Midwinter Meeting, Washington, D.C.

April 22-28 Council for Exceptional Children, 51st Annual International Convention, Dallas.

May 7-10 National Braille Association, National Conference, San Francisco.

May 27-30 Medical Libraries Association, Kansas City, Missouri

May 27-31 National Conference of Social Welfare, 100th Annual Forum, Atlantic City, New Jersey.

May 28-31 American Orthopsychiatric Association, 50th Annual Meeting, New York City.

June 10-14 Special Libraries Association, Pittsburgh.

June 15-18 American Congress of Optometrists, St. Louis.

June 24-30 American Library Association, Annual Convention, Las Vegas.

June 25-29 American Home Economics Association, Atlantic City, New Jersey.

Correction

On page 97 of the April 1972 issue of the *New Outlook for the Blind,* the Leslie Dana Gold Medal Award is incorrectly identified as being presented by the St. Louis Ophthalmological Society. Actually that award was presented to the Rev. Thomas J. Carroll by the St. Louis Society for the Blind.

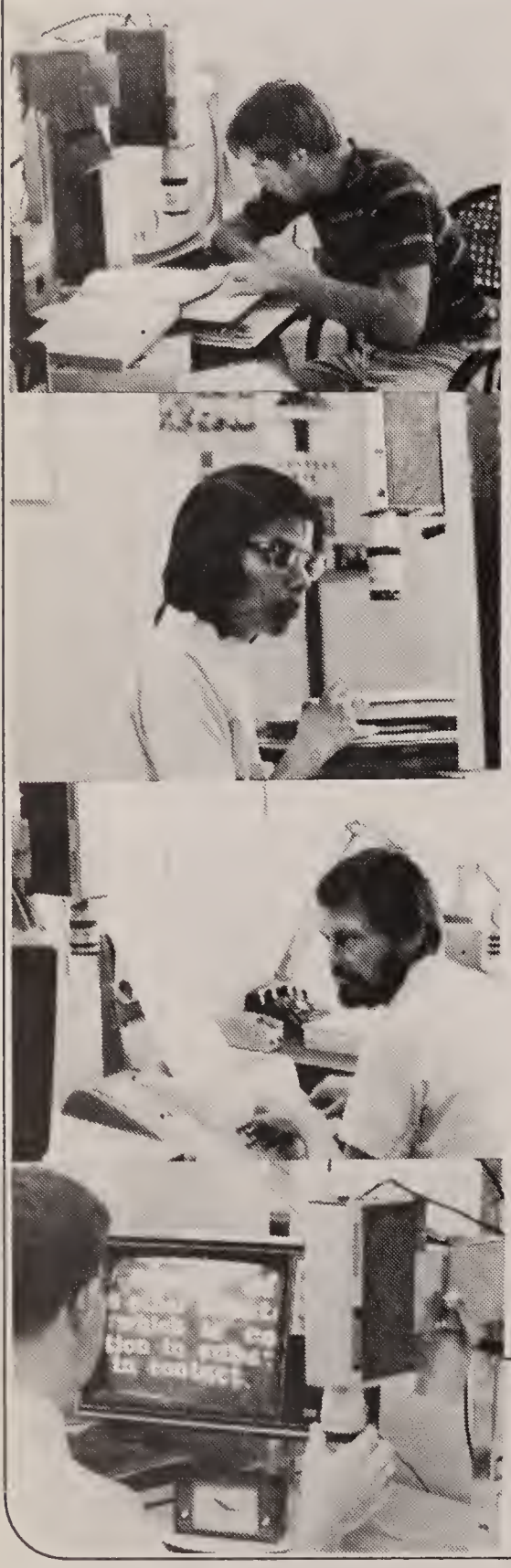
New Title Added to Offprint Series

Because it is felt that the article "Braille Bookkeeping," by Wallace R. Arms, which appears on pages 209-13 of this issue, will be of particular interest to individual blind and visually handicapped persons and to workers and teachers, it is being added to the *New Outlook* Offprint Series. Copies of the articles are available for 15 cents each. Discounts are available on orders for 50 or more copies. Payment must accompany all orders totaling $6.00 or less.

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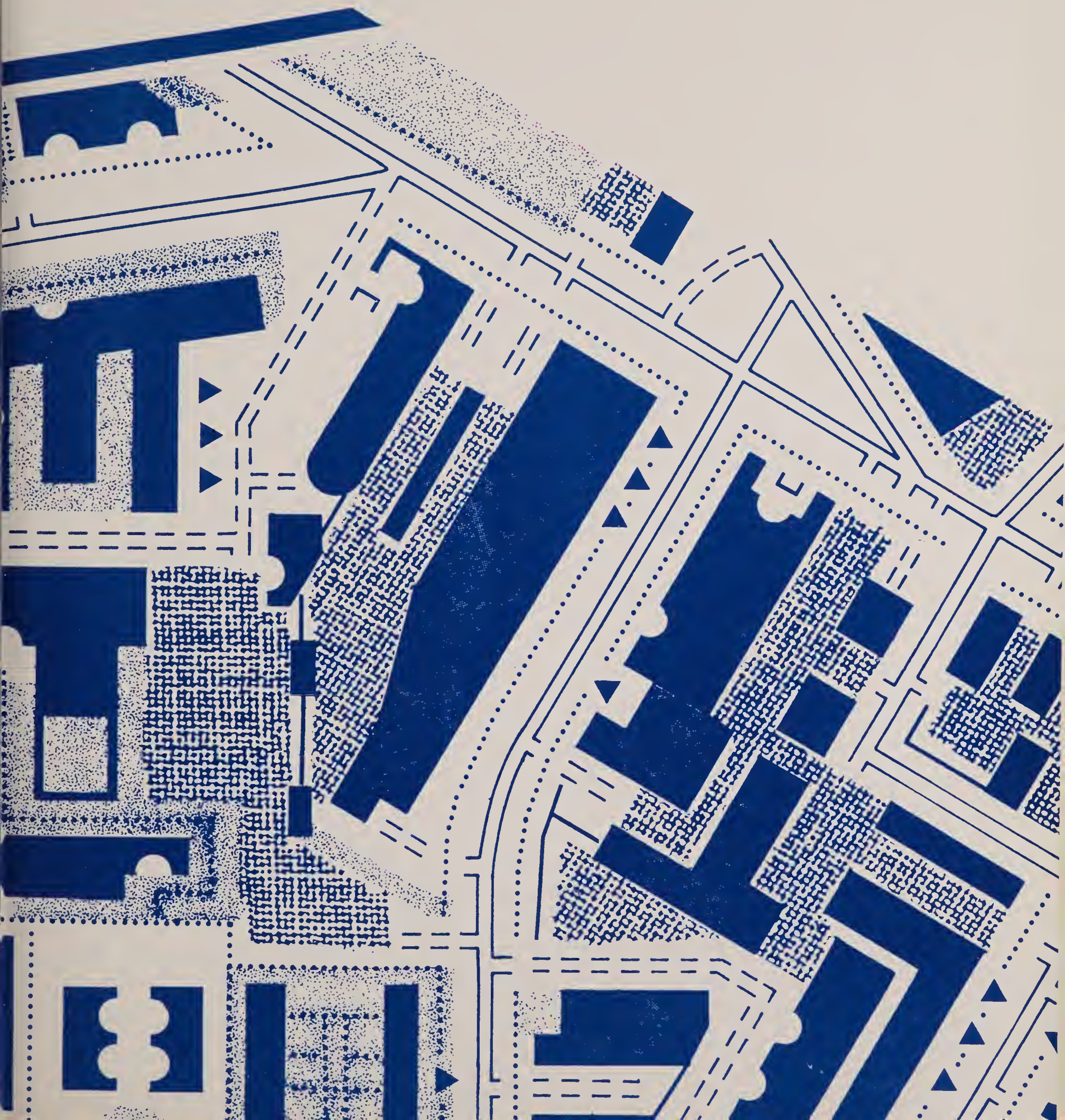
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October 1972 Volume 66 Number 8

THE NEW Outlook FOR THE BLIND

Maps—Designing Them, Making Them, Reading Them



THE NEW
Outlook
FOR THE BLIND

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Production and Testing of an Orientation and Travel Map for Visually Handicapped Persons

BILLIE LOUISE BENTZEN, M.A.

Mrs. Bentzen is supervising teacher and mobility instructor, Learning Center for the Visually Handicapped, Protestant Guild for the Blind, Watertown, Massachusetts.

When independent blind travelers wish to follow an unfamiliar route, they must either get a verbal description of the route or become familiar with it through a sighted guide. There is no commonly available means for a blind person to plan his travel in an unfamiliar area without the help of another person.

Many who work with blind persons have attempted to encourage their clients to travel independently by preparing tactual maps. There has been no agreement, however, on which variables are necessary in orientation and travel maps for blind persons, or on which symbols best represent these variables. Nonetheless, it has been empirically demonstrated to those involved in their production and use that individually prepared travel maps, even though lacking standardization, do further independent travel.

Purpose of Study

☐ The purpose of this study was to test the hypothesis that a tactual map can facilitate independent travel, within the area mapped, by visually handicapped persons with good travel skills who are unfamiliar with the area, and who receive no information about the area other than from the map itself. To do this a map of the campus of the Perkins School for the Blind, Watertown, Massachusetts, was constructed utilizing symbols and criteria found effective by Angwin,[1,2] Leonard,[3,4] Nolan,[5] Schiff,[6] and Wiedel.[7]

Design of tactual map

First, an architect's drawing of the campus was reduced to the size desired for the tactual map, 10" x 10½". The following alterations were then made: 1) all details not deemed essential to travel by blind persons were eliminated, including detailed outlines of buildings, porches, varying widths and surfaces of sidewalks, trees, and playgrounds; 2) main entrances to main buildings were marked; 3) scale was distorted so that no parallel and adjacent symbols, such as a sidewalk parallel to a building, were closer than ⅛ inch.

Selection of symbols

Symbols were then selected to represent the following necessary features: sidewalks—by a dotted line (20 dots per inch, produced with an A. B. Dick stylus number 467 in .005 dead soft aluminum foil against a 1/16-inch neoprene rubber mat, 45 durometer); fences or barriers—by a solid line (produced with an A. B. Dick stylus number 469 in alumninum foil against a rubber mat); buildings—by solidly raised areas (cut from pressboard and glued to foil, at first having the same smooth texture as the "background," but later found more effective if lightly textured by gluing fine sandpaper on the solidly raised surfaces); paved

This article is based on a master's thesis by the author entitled "An Orientation and Travel Map for the Visually Handicapped: Hand Production, Testing and Commercial Reproduction," Boston College, Department of Special Education (Peripatology), 1971.

areas—by heavily textured areas (coarse sandpaper glued on foil "background"); pond—by horizontal lines (produced with an A. B. Dick stylus number 469 in aluminum foil against a rubber mat at 3/32-inch intervals); main doors—by solidly raised ⅛-inch equilateral triangles (cut from .015-inch heat-resistant plastic and glued to building symbols).

Use of Consultants

☐ Maps of parts of the campus were constructed to scale, duplicated by the thermoform process, and examined in detail by five blind consultants who were familiar with the campus. In interviews of approximately one hour each, the consultants examined the maps and suggested changes and improvements.

The most significant change was the relocation of the braille labels from the map itself to an overlay. Although none of the consultants had ever used a tactual overlay, each one learned to use it in less than a minute and all reported that labeling on an overlay greatly improved the map by facilitating location of specific buildings, removing much clutter from the map itself, and making the braille much easier to read.

Final map

When all parts of the map were considered good by all consultants, a map of the entire campus was produced by the same hand-processes and reproduced for informal examination. When all consultants considered the campus map good, it was reproduced by the thermoform process for testing by subjects unfamiliar with the campus. The map, in parts or as a whole, was revised five times before all consultants were satisfied.

Test Subjects

☐ Six subjects were selected from a list of proficient blind travelers provided by agencies serving blind persons in the greater Boston area. Criteria for the subjects were vision inadequate for travel without the aid of a cane or dog guide, ability to read grade 2 braille, and unfamiliarity with the campus of Perkins School for the Blind. The travel skills of these subjects were evaluated by the investigator by having them travel comparable routes on the campus of Boston College, using only verbal instructions. All subjects were found to possess the travel skills which would be necessary for the map travel test.

Orientation and map training

After evaluation of their travel skills, the subjects were driven to Perkins School for the Blind and were given instruction in map use. First, they were presented with a map depicting only roads and buildings and were asked to find and, with their finger, to trace an auto route from one objective to another. They were then given a map depicting roads, buildings, and sidewalks. On this map they were to find, trace with a finger, and describe in detail a walking route from one objective to another. Finally, the subjects were presented with a complete map, including labels and key. They were instructed in the use of the overlay and were asked to locate several buildings on the map by using the grid system and the braille labels. Subjects then had to find, trace with a finger, and describe in detail a route from one objective to another. (All three maps and the braille overlay are reproduced in Figure 1.) After this familiarization process, the subjects were asked to travel this same route independently, under the supervision of the author.

Throughout the training in map use, a subject who was unable to answer a question correctly was helped by the investigator to understand his mistake and was shown the correct answer. While traveling the practice route, the investigator answered questions and helped subjects to re-orient themselves if necessary.

Map Travel Test

☐ Testing immediately followed the training. Subjects were given the names of three buildings which they were to find in order, starting from the main campus entrance. They were given as much time as desired to plan a route to the first objective and were asked to describe the route in detail to the investigator. No further questions from the subjects were answered in this phase. The first route included eight specific checkpoints, such as intersections where subjects had to cross or turn. Subjects were given one point for each of the eight checkpoints which they included in their plan for travel.

Conducting the test

When subjects were ready to travel the route, they were guided to the starting point and told that they would have a maximum of 20 minutes to reach the first objective. They were also told that if they became disoriented and "gave up," with time still remaining, they would be taken back to their last familiar "on course" position and given an opportunity to try again. They were accompanied by the investigator on their route, but no questions were answered or help given except in the event that the subject "gave up." Subjects were allowed free reference to the map as they followed the route.

Scoring

Subjects were given eight points for teaching the objective; one point was deducted for each checkpoint which they missed or at which they made a wrong turn, but from which they recovered and continued. If a subject became disoriented and "gave up," two points were subtracted from his score for that objective. Upon reaching objective one, subjects were congratulated and allowed to rest a few minutes before planning a route from objective one to objective two.

The same general procedure was followed for objectives two and three, except that 15 minutes were allowed to reach objective two, which included six checkpoints, and 30 minutes were allowed for objective three, which had 13 checkpoints.

Results

☐ Raw data including both assigned variables (age of subject, length of time visually handicapped, length of time needing a travel aid, amount of residual vision, length of time traveling with a cane or dog guide, and use of cane or dog guide) and dependent variables (route planning score, and time and error scores for the three objectives of the travel test) are summarized in Table 1. The sample was too small for a meaningful correlation of assigned variables with dependent variables.

Discussion

As the table indicates, no subject had difficulty in planning routes using the map. Subjects varied widely, however, in their style of using the map. Four subjects actively used both hands in route planning, while two used just one hand. (One of the latter had only one hand, but experienced no difficulty using the map.) One subject scanned hastily and missed important details, until his attention was called to this problem.

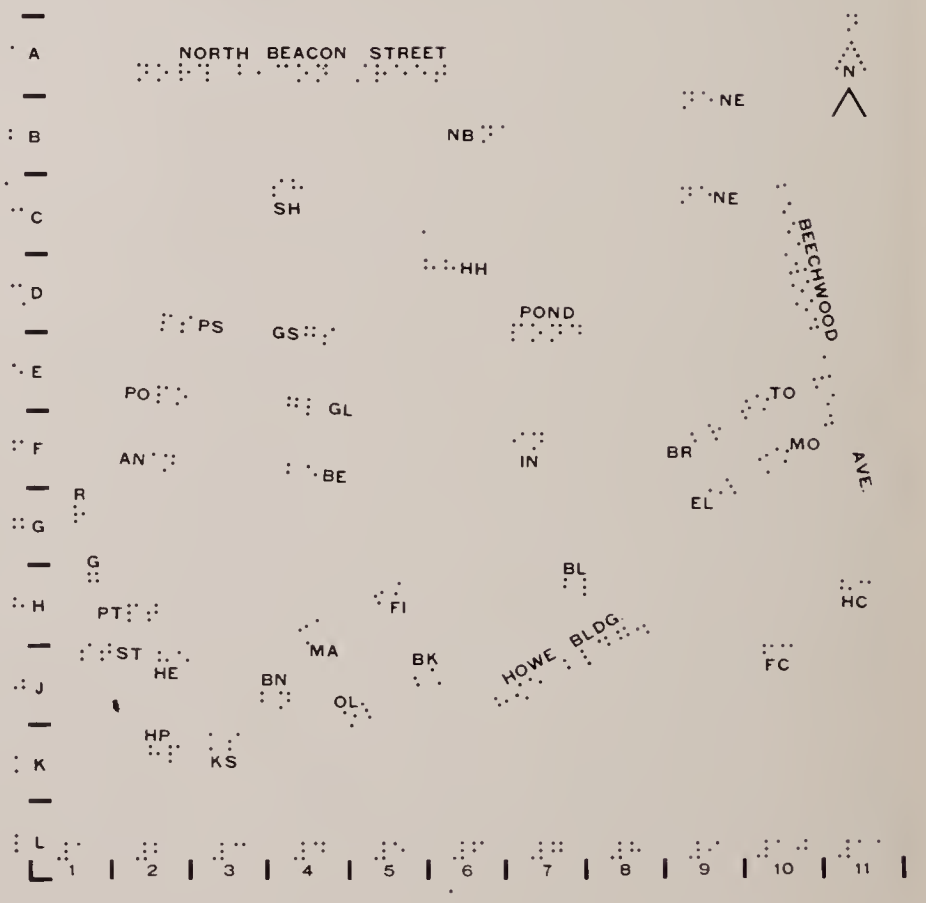
TABLE 1
Summary of Data

	Subjects					
	1	2	3	4	5	6
Age of Subject	31	43	21	47	41	24
Years Visually Handicapped	14	43	21	47	26	20
Years Needing Travel Aid	14	30	3	14	26	15
Amount of Residual Vision	nil	nil	light perception	*	nil	nil
Years Traveling With Aid	14	25	½	14	26	6
Cane or Dog Guide	cane	cane	dog	cane	cane	cane
Route Planning (27 = perfect)	27	27	27	27	27	27
Map Travel Test:						
Objective 1						
Time (20 minutes allowed)	15	20	8	14	9	17
Score (8 possible)	4	5	6	4	5	4
Objective 2						
Time (15 minutes allowed)	12	10	5	9	2	1
Score (6 possible)	4	4	2	2	5	6
Objective 3						
Time (30 minutes allowed)	7	4	23	5	27	14
Score (13 possible)	12	13	7	13	9**	10**

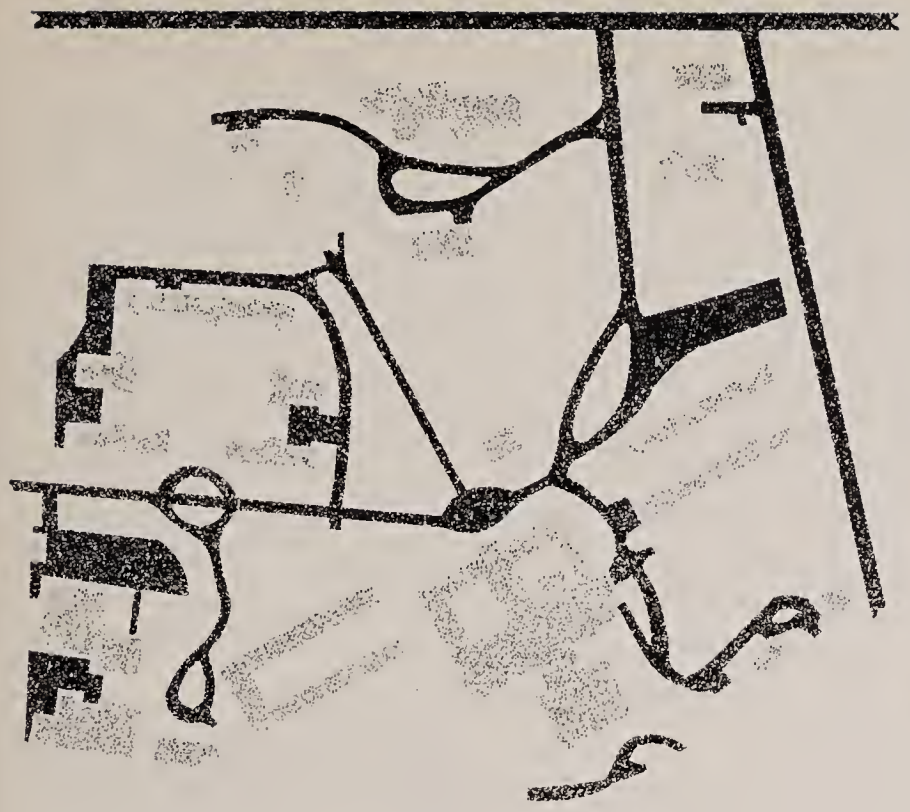
*Subject 4 had no vision for 14 years, but within the six months prior to testing, had some vision restored by surgery, perhaps as much as 20/400 in the better eye with correction, in good illumination. He was tested at night, however, without correction, and under these conditions has only light projection. Lights along the main driveway did, however, give subject 4 information which was not available to the other subjects. Use of the map was entirely tactual.

**Subjects 5 and 6 were the only one who never became disoriented and reached all objectives without assistance from the investigator.

FIGURE 1
Map of Campus of Perkins School for the Blind



a. Overlay for campus map, showing grid and labels. Original was embossed in transparent acetate. Used with all three maps shown on facing page.



b. Map showing only buildings and large paved areas such as driveways and parking lots.



c. Map identical to b., but also showing sidewalks.



d. Map identical to c., but also showing main entrances, fences, barriers, and pond; contains all information essential for travel on the campus by those unfamiliar with the area. (Art work, based on original drawings by the author, was donated by Robert Cruedale, Mitre Corporation, Bedford, Massachusetts.)

Two subjects consistently relocated items on the map by using a deliberate co-ordinate system, e.g., by remembering about how far the item was from the left edge of the map and how far down from the top, they would bring two fingers together from the side and top to pinpoint the item. The other subjects used a landmark system, locating all items on the map in relation to an easily identified landmark, such as the largest building. All subjects were readily able to locate buildings on the map using the overlay labels and the co-ordinate system. No subject had prior experience with a tactual overlay; some had never before used grid co-ordinates. No subject experienced difficulty recognizing or distinguishing symbols in their context, needed to refer back to the key to recall what a symbol represented, or found the scale unreadably small.

Hypothesis Confirmed

☐ In the map travel test, the hypothesis was confirmed: a tactual map enables visually handicapped persons with good travel skills to travel independently in an unfamiliar area without relying on a sighted person for any information about the area. Of a total possible score of 27, the range of scores was 15-22 and the mean score was 19.1.

All subjects succeeded in reaching all three objectives within the time allowed. Two subjects (five and six) needed no help from the investigator. Although they both made a few wrong turns and missed checkpoints for which they were looking, they tracked themselves on the map, recognized their errors, and continued to the objective. The other four subjects became disoriented at least once, and needed to be taken back to a familiar "on course" position by the investigator. No subject became totally disoriented in traveling to objective three, although this route contained the greatest number of checkpoints. This indicates that a certain amount of learning occurred in the course of the map travel test. It is not possible to say, however, whether this learning was primarily due to the use of the map for travel or to learning to anticipate characteristics of the campus (e.g., extremely narrow sidewalks).

The error encountered most frequently on the map travel test was failure to note intersecting sidewalks or driveways. Subjects who had this problem attributed it to traveling too fast and not anticipating such things as very narrow sidewalks or driveways which blended almost completely with the sidewalks. These subjects were traveling more slowly by the time they were *en route* to objective three and were able to identify intersecting sidewalks readily. Distance judgement was another common problem. Although all subjects understood that the scale was only approximate, and that the minimum space of ⅛ inch between two adjacent symbols did not necessarily mean that they were 20 feet apart, three subjects who consciously estimated distances in their daily travel found the approximate scale annoying when they first applied the map to travel. All, however, accepted the ⅛-inch minimum separation between symbols as necessary for tactual legibility and learned to interpret the scale loosely. All subjects attributed their travel errors to causes other than poor cartography.

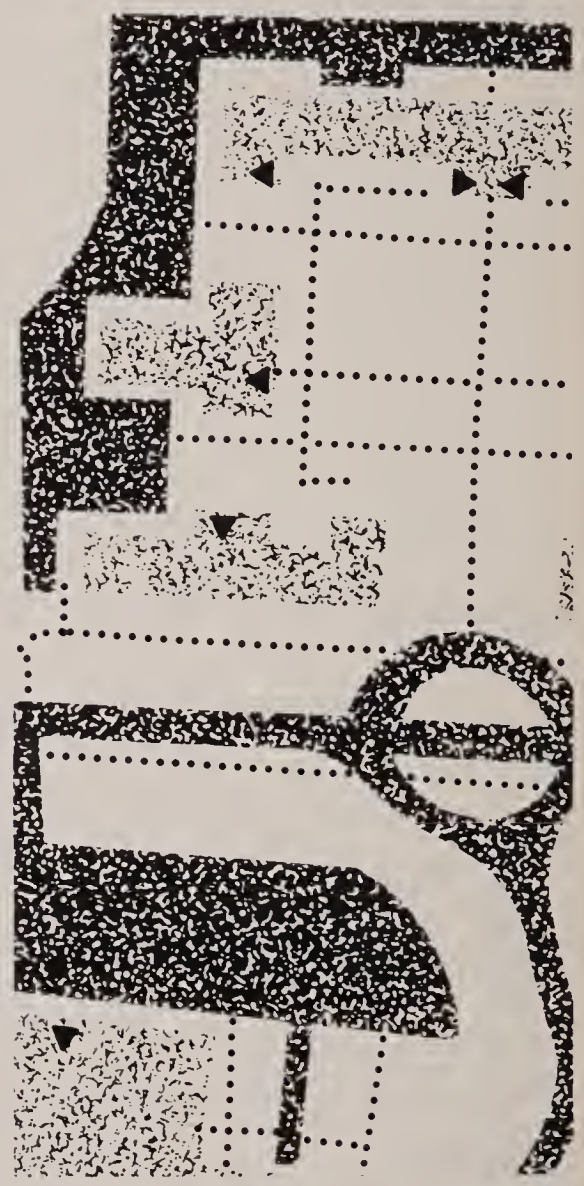


FIGURE 2
Detail From Figure 1c. at the Full Scale of the Original Map

Techniques varied

Techniques for using the map while traveling varied, since the investigator had suggested no particular technique. All subjects turned immediately to the map for reference when they became slightly confused about the route on their surroundings. Three subjects oriented the map to correspond to the earth when they referred to it *en route,* while the rest kept North at the top of the page. When reading the map while standing, four subjects placed it against their bodies for support, one rested the map on a convenient wall or door, and one preferred to have the investigator hold it for him.

Reactions of Subjects

☐ All subjects, when encouraged to express opinions about the map, indicated in some way that they found it preferable to verbal directions for this type of travel and none found the map "more bother than it was worth." Reasons given for this were that the map gave a better mental image of the route and surroundings than verbal directions, it gave more information than verbal directions, and it could be referred to repeatedly. Two subjects specifically commented that they liked the scale of the map and did not find the necessary crowding of detail objectionable. One subject expressed the desire for a slightly larger scale. The amount of information on the map was found to be neither too much nor too little. The overlay labels with marginal grid were enthusiastically endorsed by all subjects. Four subjects stated that the two simple, introductory maps were an invaluable aid, not only in developing map-reading skills, but also in developing an overall orientation to the campus.

Suggestions

Subjects were invited to make suggestions for improving the map; only a few, however, were made. Three subjects did suggest that the map include a verbal description of some aspects of the campus relevant to foot travel, e.g., that the sidewalks are often very narrow, that the only place where a driveway has a curb is in front of the Howe Building.

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The Environmental Perceptions of Blind Persons and Their Haptic Representation

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Some readers may be curious why we, as architecture students, became involved with the research and development of tactual maps. It is important to answer this question before proceeding any further in order to link our own professional interests with the ongoing programs in this specific area of cartographic research. Our participation in this field stems from a keen interest in the non-visual attributes of space, for architects have been traditionally trained to use their eyes so extensively in the creation, design, and execution of their work that they have tended to exclude the other senses from participating in this process. We note, for example, our own tendency to judge work solely on its visual merits. What is needed now is a new set of criteria to aid in the design process itself that in some way recognizes these alternate appearances of space. As a first step only, we have tried from this work to learn more about how our surroundings and particularly the things we build are perceived and experienced non-visually.

Presenting Information

☐ The desire on our part to understand more fully the non-visual character of the environs is closely related to one of the major concerns of tactual mapping: that of articulating first in a conceptual sense and then in a symbolic one the non-visual environmental signals that are meaningful to a blind traveler. This is not to minimize the further perceptual problem of presenting this information to the tactual reader in a format that is graphically comprehensible. It is due in no small way to Prof. John. A. Steffian of the School of Architecture and Planning, Massachusetts Institute of Technology, and the enthusiasm with which he supported this research, that we have come as far as we have toward meeting this goal in the months since our work began in January 1972. The results have had considerable influence on our understanding and appreciation of the physical environment, including some unexpected non-visual side-effects of several campus buildings described to us by the Harvard and MIT blind students with whom we worked. Without their cooperation, interest, and patience (which translated into many hours of volunteered time), progress would have been impossible. Any contribution we have made to this very young but challenging field of raised images stands as a tribute to their ingenuity more than to our own.

A new field of endeavor

The idea of providing blind persons with simple, portable maps is relatively new and only now beginning to gain a measure of acceptance. Some of the reasons for this lag are partly sociological while others are

This article is based on two chapters of the authors' joint thesis. The complete thesis, with additional material prepared by the authors, will be published by the International Research Information Service, American Foundation for the Blind, early next year as a state-of-the-art report.

related to difficulties in handling as well as in the production of suitable maps. The hesitation and reluctance on the part of some mobility instructors and educators to pursue maps vigorously is no longer justifiable. A favorite question asked by this group is "How many blind people in the country can actually use a map?" The answer, stated simply, is that almost anyone can, provided he is so motivated and has the intelligence and patience to learn. In response, the most skeptical among them are quick to point out, and quite correctly so, that this component actually constitutes a very small percentage of the total blind population. An alarmingly small percentage, it seems to us, although no figures are presently available.

More map research is needed

Our question for them is "How do you know for sure that map resources do not at least offer the potential for stimulating greater mobility in the low-mobility groups?" Unfortunately, we shall never know this until sophisticated and informative travel maps are produced in sufficient quantity to permit a wider distribution and until there is such diversity in their subject matter to stimulate a greater use than is presently the case. Furthermore, we cannot afford to continue depriving those blind users, whose numbers may not yet be large, of the maps that are unquestionably beneficial to them today. In addition to continuing the developmental work and production of tactual maps, we urge, as a necessary prerequisite toward wider map use, the introduction of pilot programs teaching basic map-reading skills into the early curriculum of the congenitally blind student. Such programs would prepare the way for and later complement other areas of study such as geography, history, and mobility instruction. Similarly, properly handled courses of mapping instruction stand to enhance rehabilitation programs for adventitiously blinded persons.

The Architect's Contribution

☐ In these formative stages of implementation and development, interdisciplinary research must play a vital role. Cartographers, geographers, teachers of the blind, psychologists, peripatologists, and of course the blind users themselves need to be involved together. Architects too can make a significant contribution toward the development and representation of urban route maps and interior spaces. Trained in the design and description of physical form, they are in a particularly advantageous position to understand the way in which many urban relationships are perceived by blind persons as well as by sighted individuals, and to draw upon their professional expertise to transform these physical definitions into tactual representations.

A challenging problem

We have specifically addressed ourselves to the research, design, and production of a sophisticated, challenging mobility map for the highly motivated and mobile blind user, instead of opting for a more simplified, less ambitious representation. We hope in doing so to discover what the representational limits are in presenting physical-spatial information, and through a program of evaluation to see if its greater informational content permits a degree of freedom and independent choice in travel that heretofore has been unobtainable through current mobility prac-

tice alone. Concurrently, it has been necessary to investigate what durable materials were either available or could be found to make a portable, but highly tactile, map.

Mapping the MIT campus

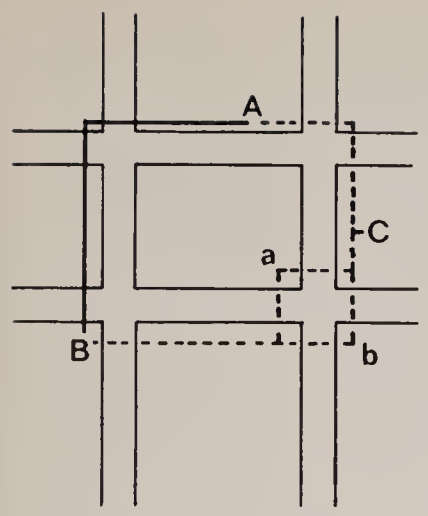
We looked for an area to map that would be of such complexity and density that a blind traveler would have to understand the relationships of its physical components to become truly mobile within it. We found the perfect location at MIT where we had been living and working as students for several years. In addition, we were encouraged by the MIT Planning Office to pursue these goals as a part of a larger program they had undertaken to implement changes within the MIT environs to aid and assist handicapped persons. Only too aware of the confusing maze of corridors, lobbies, and walkways and the larger conflicting industrial, commercial, and educational uses of land, they had just completed a guide designed to help people with ambulatory disabilities negotiate the campus more successfully. It was hoped that a tactual map could do much the same for the blind traveler, in this case a highly motivated and mobile group of blind students, most of whom would be using a route map for the first time.

Physical-Spatial to Tactual

☐ In designing a map of the MIT campus that is to be perceived nonvisually, considerations of representation supercede those of scale and symbology usually applied to the visual map. We need to choose the mode of apprehension that will most effectively communicate the information that we wish to present. Two different ways of presenting environmental relationships have been successfully used to map specific routes for blind persons. Accordingly, we shall examine the merits of each and then proceed to the more detailed questions of material and process.

Physical-spatial maps

Physical-spatial maps present a symbolic and much reduced representation of the relationships between physical things, while at the same time preserving the literality of the relationship. A majority of maps for sighted persons fall into the physical-spatial category. Using symbolic abstractions in a two-dimensional configuration, physical-spatial maps bear considerable visual resemblance, adjusting for differences in scale, to the perception of the reality mapped. Looking down from a hill or airplane, it is usually possible to match this kind of map with the immediate perception. The transformation is a self-explanatory visual correlation between symbol and that symbolized or between groups of symbols and the corresponding physical relationship. Using a variety of visually perceived landmarks, it is easy for sighted persons to orient themselves in a strange environment by closing the information loop flowing from reality to map and back again. In adapting this kind of map for a blind population, the problem is finding a common set of mappable landmarks, capable of meaningfully describing physical relationships, that are readily identifiable by the unfamiliar as well as the familiar blind traveler. Whatever landmarks are chosen must be clearly transformable into the corresponding haptic and auditory reality that comprises the blind person's direct perceptual link with the physical environment.



physical – spatial

How To Go From "A" to "B"

Directly	Indirectly	a	
turn right	turn left	turn right	walk to corner
walk to corner	walk to corner	cross street	cross street
cross street	cross street	turn left	arrival
turn left	turn right	cross street	
cross street	walk to C	turn right	
walk to corner	turn left to C		
cross street	turn left from C	or b	
arrival	walk to corner	cross street	
		turn right	
		cross street	

sequential

FIGURE 1
A Physical-Spatial Map Compared to a Sequential Map

Differing generically from the physical-spatial map, the sequential map is characterized by a successive list of actions or instructions leading to decision points that in turn branch into further instructions. Its familiar counterpart, the computer flow chart, is a map of sorts itself for the more detailed program coding that is actually fed into the machine. The sequential map has a special appeal for many blind applications because of the successive, sequential nature of the haptic perception. Leonard compares a blind traveler preparing to cross a busy intersection with the experiences of a climber scaling the slopes of a mountain, neither of whom can see the route ahead.[1] Because each is limited to a number of specific choices of execution, their next series of moves could most appropriately be represented in a sequential format.

Advantages

A particular advantage of the sequential map is that it can be verbally constructed in either tactual or auditory terms. Figure 1 shows a simple transposition from a physical spatial to a sequential representation. The mapped route presents two alternatives: going from A to B by indirectly passing C or by going straight to B. Leonard and Newman experimented with several sequential portable maps for route travel. Their braille-encoded spatial disc works by moving a pointer from instruction to instruction as one progresses along the route.[2] The outer ring of instructions, similar to the ones in the sequential sample of Figure 1 provides the necessary information to reach a destination, while the inner rings supply supplementary data to clarify ambiguities that may occur along the way. Leonard and Newman also tried taping the instructions so that they could be played back from a portable recorder as one walked the route. Both methods proved to be successful ways of portably presenting route information to blind travelers. They reported that at least half of their test group finished a totally unfamiliar route without making any mistakes.

Limitations

There are, however, some serious limitations in a sequential presentation. Route variation becomes difficult if not impossible because spatial connections and interrelationships cannot be simply defined. To

show an alternate way to cross the intersection took five additional instructions in the elementary route map referred to in the preceding paragraph. The physical-spatial map, on the other hand, contains all the necessary information to formulate an alternate route.

Communicating spatial relationships

Only a limited number of maps need be drawn of the MIT campus to describe it adequately for the blind traveler. It is doubtful whether even 50 sequential maps could meet the needs of the blind community and visitors to the campus, even though many of the routes would be common for everyone. It is one thing to use the Automobile Club "Triptic" map on a vacation, but quite another to have to wade through five or six spatial discs or cassette recordings to go only a block or two. The real challenge lies in developing the tactual techniques to communicate the visually understood relationships of organization and physical structure in a way that will enable the blind traveler to enhance his route repertoire as he chooses. Although it may be that the physical-spatial map initially places greater perceptual demands on the user than either the brailled or taped sequential, its potential benefits are far greater for the highly motivated and mobile blind traveler.

Current Mapping Techniques

☐ Surveying the currently available physical-spatial maps for the blind, one is struck by the almost total lack of urban maps. Sherman, for instance, knows of only three other maps that would enable a blind person to find his way about a city.[3] One is the German map of Marburg-Lahn constructed on molded paper; one is an out-of-date portfolio of maps of the London Underground Railway; and the third one is a newer map of central London. He has yet to find anything except a handmade, non-reproducible map of all or part of any American city. A great need exists for both inexpensive and portable urban maps that would enable blind individuals to travel freely about the city. Part of the reason for the scarcity of tactual maps is that no one has yet found a durable and inexpensive material that can produce representations with a high degree of tactuality which are at the same time legible visually.

Six basic types of tactual map processes are currently being used.[4] They include embossed paper maps, dissected relief or planimetric maps of wood or rubber, silk-screened maps, nonreproducible special maps, virkotyping, and molded paper or plastic maps.

Embossed paper

On a typical embossed paper map, the legend and place names are in braille and textures are used for areal differentiation between land and water. Selling for only a few cents each, the maps may be printed in register to allow for sighted use. Unfortunately, they can hardly be called portable. Prone to creasing and tearing when dry, they completely disintegrate when they become wet.

Relief and planimetric

Because they are cut out, dissect relief or planimetric maps resemble a jigsaw puzzle. Used to introduce the blind individual to shape and areal form, they are owned primarily by those agencies offering blind training programs. These bulky and expensive map forms offer neither portability nor economy.

Silk-screen

A most unusual variety of tactual map is represented by the silk-

screened atlas of Japan produced by the Osaka Lighthouse for the Blind. Rating as one of the most ambitious and imaginative contemporary efforts in tactual cartography to date, it is not without its drawbacks. According to Wiedel and Groves, the tactual forms produced by the hand-cut stencils are particularly effective with respect to point and dotted line work, but less so regarding solid line and areal symbols.[5] They also noted that although most subjects find the map perceptually clear at first, they experienced tactual fatigue using it for any length of time. For this reason and because of the incredible amount of craftsmanship that goes into a map of this kind, it is not practicable for our needs.

Non-reproducible hand-made

Hand-made, non-reproducible, special maps, while of no significant import for our purposes, prove often to be ingenious attempts at fulfilling a special need. Several efforts by individuals at MIT were so simple as to belie their real worth. One we saw was a symbolic physical layout of the main buildings on the campus. A blind student had made it on a Perkins brailler as someone looking at a campus map described it to her. The braille cell used to form each building was the particular number-name of the building.

Virkotyping

Virkotyping or thermocraft is a relatively recent process that has been extensively used in reproducing braille texts. Proving to be economical in large runs, the process unfortunately employs a paper backing and its tactibility seems to be less satisfactory for mapping applications than for brailling. A freshly-printed page is dusted with a resinous powder which easily bonds to the sticky ink on the page. When the page is heated, the melted resins are transformed into a raised tactual image corresponding to the print on the page. The perceptual problem stems from the sharpness of the raised image and its tendency to powder, leaving dust on the fingers and making reading very difficult.

Molded paper and plastic

A significant step in tactual cartography was taken when the American Thermoform Company began marketing a small vacuum-molding machine a few years ago. Using this device, it is possible to reproduce letter-sized, molded plastic copies costing only a few cents a piece. Capable of elevations as high as half an inch, thermoforming introduced a tactual dimension not found in the low-relief samples of virkotyping or paper embossing. As a result, the most meaningful work to date in physical-spatial route-mapping has utilized the thermoform process. A particularly impressive example is Bentzen's map of the grounds of the Perkins School for the Blind.[6] Consisting of several different overlays constructed from collages of sandpaper and balsa wood glued to a heavy tin-foil master, it presents the campus in a series of progressively more detailed representations. Although the process has a great potential for meeting the needs of agencies and small groups in highly specific applications, it is not suited for mass production. A hand process, labor costs run high for anything but small numbers. Minute variations from copy to copy have created further perceptual problems. In addition, many blind persons find this brittle material tactually fatiguing to use.

Bentzen's map of Perkins

Polyvinyl Chloride

☐ Unfortunately, every one of these materials possesses one or more limitations with respect to perceptibility, durability, or production. In order to produce a truly portable map, we needed to find a material possessing a high degree of tactuality, but one durable enough to withstand the ravages of wind, rain, snow, etc. It was with great excitement that we approached the tactual investigation of a new material, polyvinyl chloride, suggested to us by Harry Friedman of the Howe Press. It seemed to meet the durability and production requirements lacking in the rest. Originally used to make table mats, this floppy, weather resistant, fireproof material easily rolls and folds without creasing or tearing. Closely guarded by its manufacturers, Plastic Lace, Inc., the process involves heating resinous powders into a core varying two- to three-sixteenths of an inch in thickness. During the actual heating process, a master surface mold prepared from a photo-engraved plate applies a raised layer of pigmented vinyl that permanently affixes to the base. The high initial costs of the four- by five-foot master mold are recoverable if several maps are run from the same mold in quantities of 50 or more. We estimate that a two-sided map measuring one by two feet could be sold for less than five dollars a copy.[7] Although the costs of production are substantially greater than in thermoforming or embossing, urban and geographic map applications having a reasonably large market are economically viable using this process.

Friedman's experiments

Convinced that the process could be adapted readily for tactual applications, Friedman in early 1972 produced the first polyvinyl chloride map prototype of Watertown Square, Watertown, Massachusetts. Consisting of various solid and dashed lines, one-eighth-inch circular point symbols, and three large-screened patterns in the center, the map represented a discrete tactual level approximately 400 micrometers higher than the base surface. After examining some imperfections in one of the reproductions caused by dirt on the original negative and then looking more closely at some of the table mat samples, we thought it desirable to try for an intermediate tactual level. Accordingly, we prepared a sample sheet to test various areal, point, and line symbols, many of which are commercially available in transfer sheets. In addition, we drew a small map segment on the test sheet to see how some of what we judged to be the most promising symbols would reproduce in a group context.

Test Sheet

☐ From the sample, we learned that although it was possible to produce an intermediate level, there were some constraints on the use of each level. Generally speaking, symbols, whether dots, lines, or textures, comprised of thinly drawn lines or points, reproduced as intermediate levels. The thicker symbols formed a higher tactual level. The highest level areal symbols, including textures and clusters of point symbols and lines, were most easily discernible. At the intermediate level, some textures, although maintaining a high degree of visual legibility, were not tactually differentiable from one another. What we found in testing this sheet was that even though many blind subjects could differentiate between a number of textures, the differences in some cases were

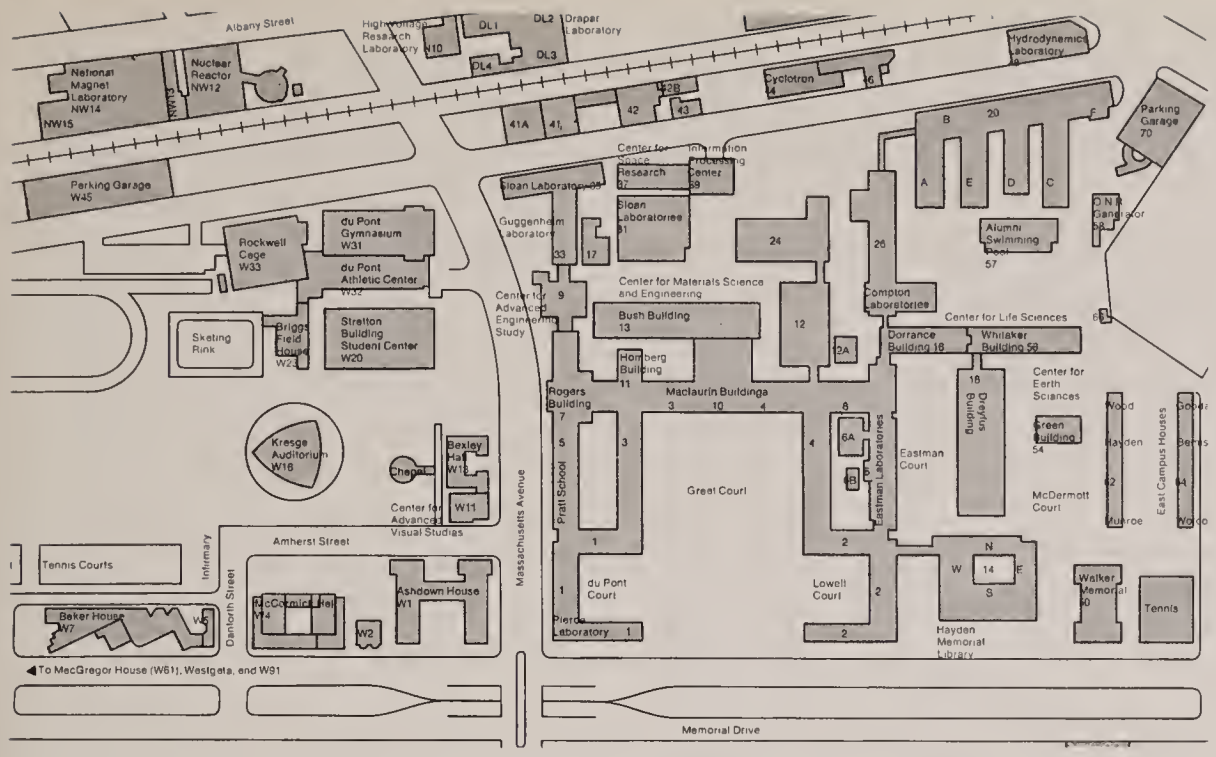


FIGURE 2
MIT Information Office Map of the Campus

subtle enough that they could not always be remembered. With practice, however, a growing familiarily with the symbol was often sufficient to overcome the initial ambiguity.

Point and areal symbols

The work of Nolan and Morris, while of some help in formulating the group of point symbols, dealt for the most part with symbols of much larger scale than would be practical for the kind of map we were proposing.[8] Therefore, we tested smaller symbols to see if we could find a minimum size that could be used effectively on the map. In our initial tests with the map segment on the test sample, we learned how much symbol perceptibility depended on the way point and line symbols were used in conjunction with the areal fields. For example, the intermediate areal symbol offers one distinct advantage over the high field areal symbol: namely, that line and point symbols superimposed into an areal field are buried in the higher area level but are tactually discernible in the intermediate level.

Problems of Content and Representation

☐ Encouraged by the results of the sample sheet, we wanted to construct a map of sufficient detail to challenge the process. It was necessary first, however, to determine the scale and content of the map. In the following section of this article, we examine the suggestions of the MIT and Harvard blind students who we consulted regarding information to be included on a tactual map. We also turn to the experiences of several "mapologists" to learn about some of the problems of representation mentioned in their work.

Preliminary considerations

If the design of the campus map involved only the transformation of a visual map into a suitable tactual format, this section would not have to be written. We could, in fact, take the map supplied by the MIT Information Office, shown in Figure 2, ink-trace it onto a vellum sheet (occasionally changing some of the solid lines into dotted ones), photograph the finished map, and send the negative off to make a photo-engraved plate for reproduction. If it were only that easy! Unfortunately, there

are two major problems not to be overlooked: content, what to show; and representation, how to show it. Is the information that is important for a blind traveler the same that is presented on a visual map? What are some of the special representational problems of a tactual format and how can they be solved?

Perceptual differences

We had to keep reminding ourselves at the early stages of this project that the information presented on a printed map was intended for people who can see their environment, who think primarily in terms of visual landmarks, and who with one sweep of the head can grasp enough information to move about comfortably within a strange and unfamiliar environment. A blind person has to devote considerably more effort and energy toward closing the information loop from map to environment and back again because of his highly fragmented perceptual impressions. Many meaningful landmarks for sighted persons are not perceived by the visually handicapped person, or, when they are, present a much less satisfactory auditory and haptic perceptual range. The city skyline, shapes and colors of buildings, signs, and other visual displays, all important reference points for a sighted traveler, are worthless as orientation and navigation aids for the blind individual.

Interviews with blind persons

It was for this reason that we went directly to some of the blind students at MIT and Harvard to ask them how the campus revealed itself. We were interested in learning about the environmental cues that they felt were the most meaningful and reliable; we also hoped to gain some insight as to how they actually conceptualized the built relationships on the campus. (Extensive summaries of the characteristics of the subjects and their suggestions plus complete transcripts of the interviews will be included in the forthcoming state-of-the-art report.) While there were individual variations, the physical campus was most strongly characterized for the majority of them in terms of circulation. Every one of them organized the campus around the routes with which they were most familiar. Those with a larger route repertory actually conceptualized simple physical-spatial patterns by superimposing their individual trips upon a simplified street network.

Conceptualizations of the Campus

☐ The students' images of the campus were most frequently descriptions of an interconnected group of buildings, but there were some interesting variations. AD characterized his image as a maze with the central buildings connecting like dominoes. BC's image expressed itself nonphysically as a symmetric arrangement of building numbers. JK, who had never visited the campus, surmised from various descriptions that he had heard during his four years at Harvard, that it was comprised of long, barn-like buildings.[9] The boundaries for each of the MIT students varied according to their individual mobility experiences. For everyone, Massachusetts Avenue was a predominant structural feature. In the case of AD, CN, and GL, it divided the campus in half. For BC and ML who spent most of their time on the eastern parts of the campus, the thoroughfare constituted a prominent western feature, with Vassar Street and Memorial Drive being frequently mentioned routes

and boundaries. The interior corridor leading from the Building 7 lobby through the main complex to Building 8 was cited without exception by the MIT students and one staff member as being a principle route and the fundamental element upon which their overall understanding of the main building complex was based.

Hazards

☐ We were surprised to learn from our interviews that negative environmental qualities took precedence over their positive counterparts. Almost all of the students favored choosing a route that would minimize potential hazards, rather than enhance the variety of sensory stimulation of the trip. Occasionally, preferences for an indoor or outdoor route would emerge according to the season. But by and large, pleasant travel was synonymous with maintaining as much composure as possible. The hazards they described fell into three categories. The passing-chance event was unanimously held to be the most difficult to cope with. Citing snow, potholes, cracked sidewalks, chained bikes, and trucks blocking sidewalks, they said they preferred to take a longer route any day to avoid these hazards. Fixed-obstacles such as outdoor sculptures and unexpected trees and posts comprised a second hazard, which once encountered, fortunately, could be subsequently avoided. Interestingly enough, the Great Sail, a large metal work by Alexander Calder sitting on the south side of the Green Building, served as both a landmark and obstacle. BC said she could easily detect it using echo perception, while AD, on the other hand, had collided with it more than once. Confusing architectural definitions posed yet another set of problems. The Built Form platforms in the lobby of Building 7 baffled all of the students. Similarly, the steps leading up to the second floor of the Student Center were difficult to understand because they led in the opposite direction in which one wanted to go. Because of its lack of shorelines, the large plaza in front of the Student Center presented problems, too.

Three types

Student Suggestions

☐ Although a third of the students had never used a tactual map before, we asked all of them about what information they would find helpful on a campus map. Their suggestions included: a general outline of the buildings, streets,* sidewalks,* steps and the direction of steps,* various paving textures,* major interior corridors, entrances and specific entrance types,* mailboxes, hedges,* restaurants and cafeterias, and parking areas. In addition to the value of knowing the whereabouts of those features asterisked, they comprise meaningful local landmarks that the blind person readily perceives using prescribed mobility techniques. They can be used together to close the information loop from environment to map. For example, although he can not see the entrance to Building 7 from the Student Center plaza, a blind person can verify his position with respect to where he thinks he is on the map by comparing the actual sequence of these feed-back cues to the predicted one. By noting discrepancies he will be alerted to errors in his course which he can try either to correct by himself or to solicit aid in returning to his original course. Fortunately, these landmark cues occur frequently

enough that he can confidently use them to find almost any place he wants to go. It is just a question of making sure they are clearly and accurately represented on a route map.

Braille or taped guide

The students offered other helpful suggestions. Several felt that a braille or taped guide would be useful in introducing and supplementing the map. Bentzen reported similar responses from three of her test subjects.[10] Vito Proscia, director of the MIT Sensory Aids Center and a participant in the study, urged that the map be made in a way that was compatible with sighted use. It would then be possible for a sighted person to help the blind reader if he had trouble interpreting something on the map. Having seen Friedman's Watertown map, JK likes the polyvinyl chloride (pvc) material and suggested that we use the back side for braille and keep the front for physical things like buildings and streets. Bentzen had successfully used several overlays on her map of Perkins. IS felt that the braille would be easier to read if it ran in only one direction. We agreed with him, remembering the difficulties several of these people had in deciphering the braille on Friedman's first map. Wiedel and Groves argued that if north was the top edge of the map, the braille could be placed at any angle as long as it could be read from west to east or south to north. Although it worked for them, we believe this kind of alignment makes for slower reading and may actually prove to be confusing if substantial amounts of information have to be brailled on the map.

The Representational Problem

☐ We have reached a point where the questions of content must also embrace a representational analysis. In order to make the wisest selection of content, we need to determine the kinds and numbers of symbols that can be presented clearly on tactual maps. Wiedel and Groves have argued for the standardization of mapping symbols. It seems to us that until a reasonable process capable of producing a legible and portable map is universally accepted, this standardization cannot happen because each process has its unique representational characteristics. Symbols working well in thermoform cannot be counted on to be perceptually clear in polyvinyl chloride or embossed paper. Similarly, each of these processes has differing characteristics with respect to resolution, tactual levels, and perceptibility. Because of significant problems with hand-drawn symbols, we would like to see the development of a sheet of transfer symbols compatible with photo-engraving techniques common to several of these processes.

Use of distortion

Despite representational variations between processes, the research conducted by Wiedel and Groves and by Bentzen has identified particular areas of concern that apply to all tactual maps. Wiedel and Groves found that the importance of linear scale decreases as the map scale is enlarged.[11] Both they and Bentzen took advantage of this fact by distorting for the sake of a greater perceptual clarity. In her Perkins map, Bentzen kept parallel line symbols and point symbols at least one-eighth of an inch apart by stretching building outlines and relationships between symbols. Besides distortion, two other methods

have been used to alleviate the problems of tactual clutter. It is possible in thermoform to obtain a variety of elevations and thereby relegate symbols to specific tactual levels. Wiedel and Groves felt that by keeping braille at the lowest level they were able to increase the legibility of the map. Overlay techniques, such as the ones developed by Bentzen in which information is registered from sheet to sheet, can significantly reduce the amount of symbology on any one sheet.

Map size

Both Wiedel and Groves and Bentzen felt that the optimum map size is a 12-inch square, the maximum area than can be surveyed in the space of two palm spans. Wiedel and Groves suggest that this size might be increased if orientation points are located within one hand span of each other. It should be noted that both Wiedel and Groves and Bentzen were limited to this map size because of the size of the thermoform machine they were using.[12] Larger mobility maps need further testing before they can be adequately evaluated, but they at least offer the possibility of presenting more information simply.

Symbol research

There are several other points worth mentioning here. Wiedel and Groves found that it was preferable to mark the entire north edge of the map than to use a single point indicator. They also developed a directional stair symbol which clearly indicates whether the steps are ascending or descending. Leonard and Angwin discovered that dotted lines are tactually clearer than solid ones.[13] Wiedel's tests confirmed that a line of 20 dots per inch was easiest to follow and he therefore used these for sidewalks and recommended pathways. To date, a variety of point, line, and areal symbols have been tested, a usable number of which have been found discriminable in the media of virkotype, thermoform, and embossed paper. Some of the symbols were designed and produced in hand processes while others were considered for high-volume mechanical production. Unfortunately, there has been little research in trying to cross-correlate the various symbols to see how they reproduce in processes other than the ones for which they were intended.

Designing the Haptic Map

☐ Before we could draw a map, we had to spend considerable time and effort surveying the campus on bicycle. We noted parking lots, obstacles, steps, and entries and tried to locate any discrepancies or errors on our copy of the base plan of MIT. Much of the information we gathered was not provided on any of the available campus maps. Mailboxes and bus stops had to be located, routes updated, pavements and curbs examined in order to decide what should be shown as parking area and what as plaza. At the same time, we had to determine how the entrances around the campus were used. From this analysis we divided the entrances into three groups: primary, secondary, and those not suitable for use by blind persons. Primary were the most heavily traveled on the campus. Secondary were less frequently used, but nonetheless provided useful cues with respect to shorelines and sounds. The last group were out of the way entries which were either off the safe path or so concealed that even the sighted person unfamiliar with the area would not use them.

Criteria for the design

The plan of the map on the front side included all the basic physical information and a few appropriate symbols such as traffic lights and bus stops. The back side contained the more specific brailled and symbol information that could be approached selectively, such as buildings and street names, door types, and overhead links. In actuality, the sample that was produced comprised two pieces of polyvinyl chloride which were stapled together. It would be possible to heat seal the sheets together in a commercial version. Problems of registration had to be worked out carefully before the braille and symbols were drawn on the back side. Showing the middle third of the campus, the map prototype was 17" x 21" in size. Rather than introduce a specific set of reference points, we opted for a grid similar to the one Bentzen used on her Perkins map. Occurring at one-inch intervals, the lines ran down both sides of the map and across the bottom and were labeled by brailled letters or numbers on the back side.

Reversed Braille

☐ We wanted to find a way that would naturally encourage the blind reader to hold the map face-up so that a sighted person could see the front side. One of the problems with opaque overlays like braillon is that a sighted person cannot see through the overlay pages in the same way a tactual reader can. After some consideration, we devised a method of reversing the braille on the back side so that if thought of as appearing on the front side it would read correctly. We tested this method with some of the proof readers at Howe Press, and they said it presented no problems. It remained to be seen, however, how the brailled building, street, and legend information would be perceived on the back of the map using this inverted brailling running from right to left.

Considering the sighted reader

One of our first tasks was to find a way of clearly labeling the map for the sighted that would not confuse the tactual reader. The easiest method would have been to take the finished tactual map to a printer. Friedman felt that we should look for an alternate method to be implemented during the initial run where the heated resin powders melted into the tactual impressions. It would reduce the overall cost of the map by making it a one-step process. We therefore went back and studied the Watertown map and some of the table mat samples to see if it was possible to camouflage words and arabic numbers in the textures themselves. We tried two techniques on the sample sheet. First, it seemed to us that a small impression in the raised solid texture would be much less tactually perceptible than its reciprocal image raised on the base of the map. We reasoned that if we could find a white letter small and thin enough to use in the solid building texture, it would barely be tactually perceptible. The letter we used in the test sample was a little big, and we believe a smaller letter size would work. The second way was to hide the letter in the grass. In the sample we confirmed that words were tactually imperceptible in a grass field. The problem was that they tended at times to bleed visually into the grass field; but since they were legible, we used this method on the first map.

Grouping Symbols

☐ We tried whenever possible to provide symbol groups with the logic of the physical relationships they represented. In doing so, we could reduce the total number of symbols contained on the map. For example, there was no need to use a special symbol for a crosswalk when it could be represented just as clearly by superpositioning the path over the street. Similarly, the intersection of building and path signalled entrance. We chose, however, to notch all primary entries to facilitate finding the door-type symbol registered on the back. Roads could not be defined by two parallel sidewalks, because of the instances where two sidewalks ran parallel with no road in between.

Suggestions were followed

With one exception we used all of the definitions that were recommended to us by the Harvard and MIT students. Omitting the hedge because it crowded sidewalks, we added several symbols that would alert the blind traveler to certain conditions that normal mobility practice could not always reliably pick up. An obstacle symbol located fixed hazards such as sculptures, problem trees, and the particularly confusing architectural definitions that were pointed out by the blind students themselves. On the back of the map we represented a very valuable sound cue mentioned in the interviews. Called the overhead link, it defined second story building connections and outdoor underpasses such as the lower entrance leading into the Student Center.

Areal symbols

Six areal symbols appeared on the front side of the map. We chose the highest and clearest symbol on the sample sheet for the buildings, a solid field. We used a low dot screen to indicate grass and all the things that were not covered by the other areal textures. Likewise a low field marked the plazas. It was necessary to use the low field in both instances to enable the superpositioning of other symbols like steps and obstacles onto these surfaces. There were only subtle tactual differences between grass and plaza which could be distinguished on the test sample. It remained to be seen how easily they could be discerned on an actual map. We used high field textures to show water, parking and service roads, and the ice rink, since no superpositioning had to occur in these areas.

Line symbols

Line symbols indicated major and minor paths, walls, railroad tracks, and principle interior corridors. The unfamiliar blind traveler was encouraged to stick to the major paths because they were the safest and easiest to traverse. The minor paths, alternative routes, were represented with a smaller line symbol. Running through the center of the main building complex is an artery of corridors that are important enough to be included on the general campus map. We used thick dashed white lines through the center of the buildings to show these principle interior routes.

Point symbols

Point symbols appeared on both sides of the map—all of which had been taken from the test sample sheet. Modifying the "T" stem of the Wiedel step symbol, we converted the dots into two small squares in order to sharpen the distinction between the stem and dotted paths.

Scale

☐ The challenge was to design the map in a way that would clearly present all the information we wished to show. When in doubt we felt that it was better to allow too much rather than too little room between symbols. The scale we chose not only had to work on the front, but also had to leave enough room between the braille and symbols registered on the back. After trying several different scales to find the smallest one, we decided on approximately 1″ = 125′ for the building and grounds. In actuality, the buildings were drawn proportionally smaller than their surroundings to allow more room in between for symbols. Jogs were eliminated from many buildings, and certain areas distorted to provide more room between symbols. We had to be careful when distorting an area like the Student Center plaza that we did not irreconcilably throw off larger relationships. It could only be worked out through a trial and error process.

Questions

We realized soon after we began to draw that it was going to be difficult to predict what some of the tactual transformations would be like. Would symbol X feel as different from symbol Y as it looked? Would they reproduce as well in grass as they did on the base field of the sample sheet? At the very least it would be necessary to evaluate the tactuality of the symbols within the context of the map. In the two weeks following the production of this first map, we conducted testing sessions, each lasting several hours, with the students whom we had initially interviewed.

The First Copy

☐ The hand-produced map shown in Figure 3 is much more variable in quality from copy to copy than if it had been run on the standard production mold. In our copy the visual resolution was poor because the dye used in coloring the raised areas smeared as the sheets were pulled from the matrix. Tactually, there was little difference between the hand-run and mass-produced techniques, except for a few places where the areal symbols were less sharply defined. It should be emphasized that this hand-run is only used to test prototype designs and that the final map would be run on the bigger mold.

Hand-drawn symbols disappointing

We were disappointed with the quality of our hand-drawn symbols because of their poor resolution. Drawing them on the base vellum sheet, we did not realize that the acetate overlay containing the transfer texture would partially obscure them in the photographic process. Similarly the major path symbol bled visually and tactually into the grass field. An even greater drawback of the hand-drawn point symbols was the variability in their line width and overall size. It would be necessary in future maps to devise templates or to adapt transfer-sheet symbols to correct the problem. For these reasons, we were not at all certain that the map would be comprehended by the tactual reader. In the series of eight tests we conducted, however, the map demonstrated a measure of success that we had not expected. We were surprised by the enthusiasm with which all of our subjects responded to the map, the most detailed they had ever read.

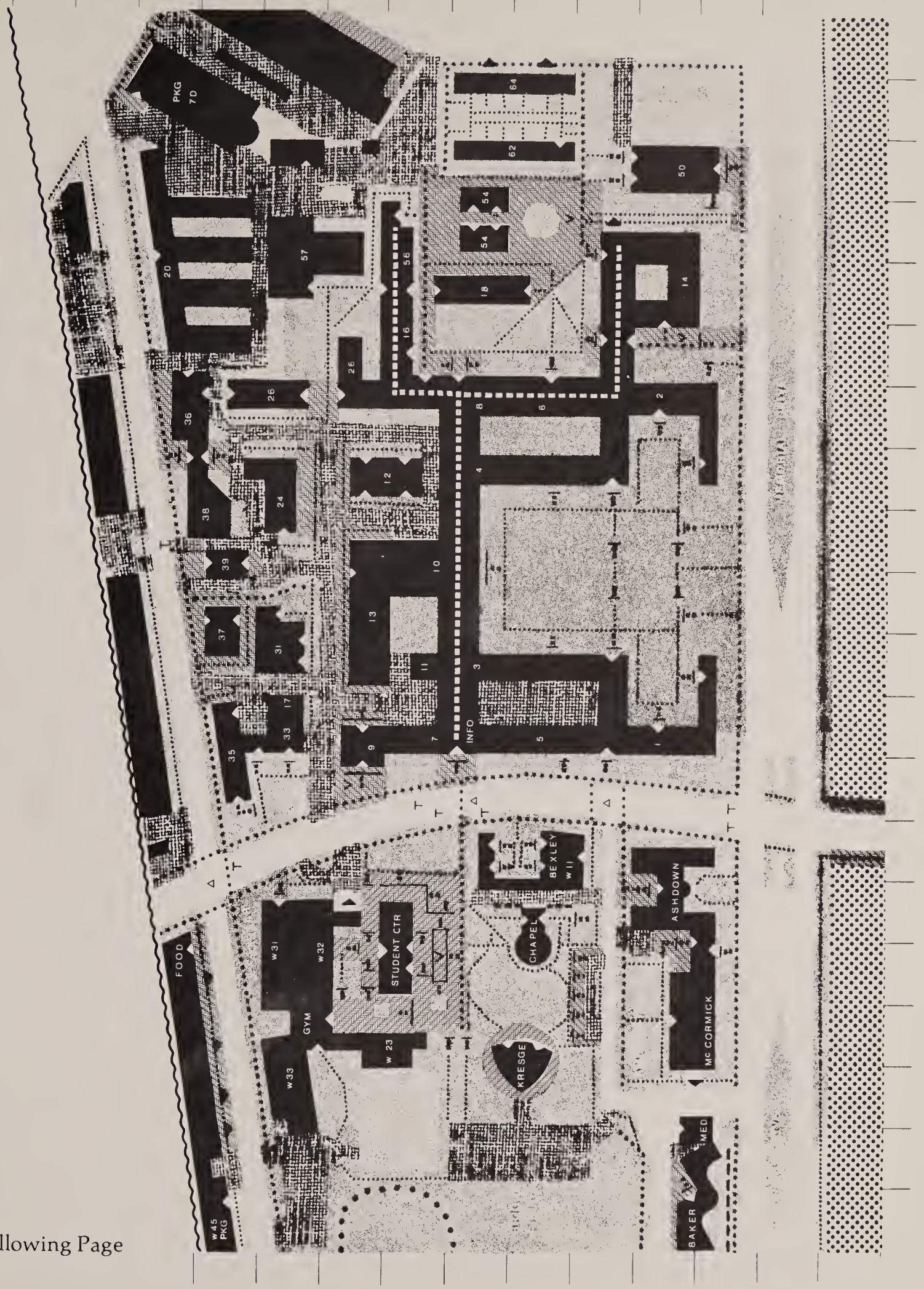
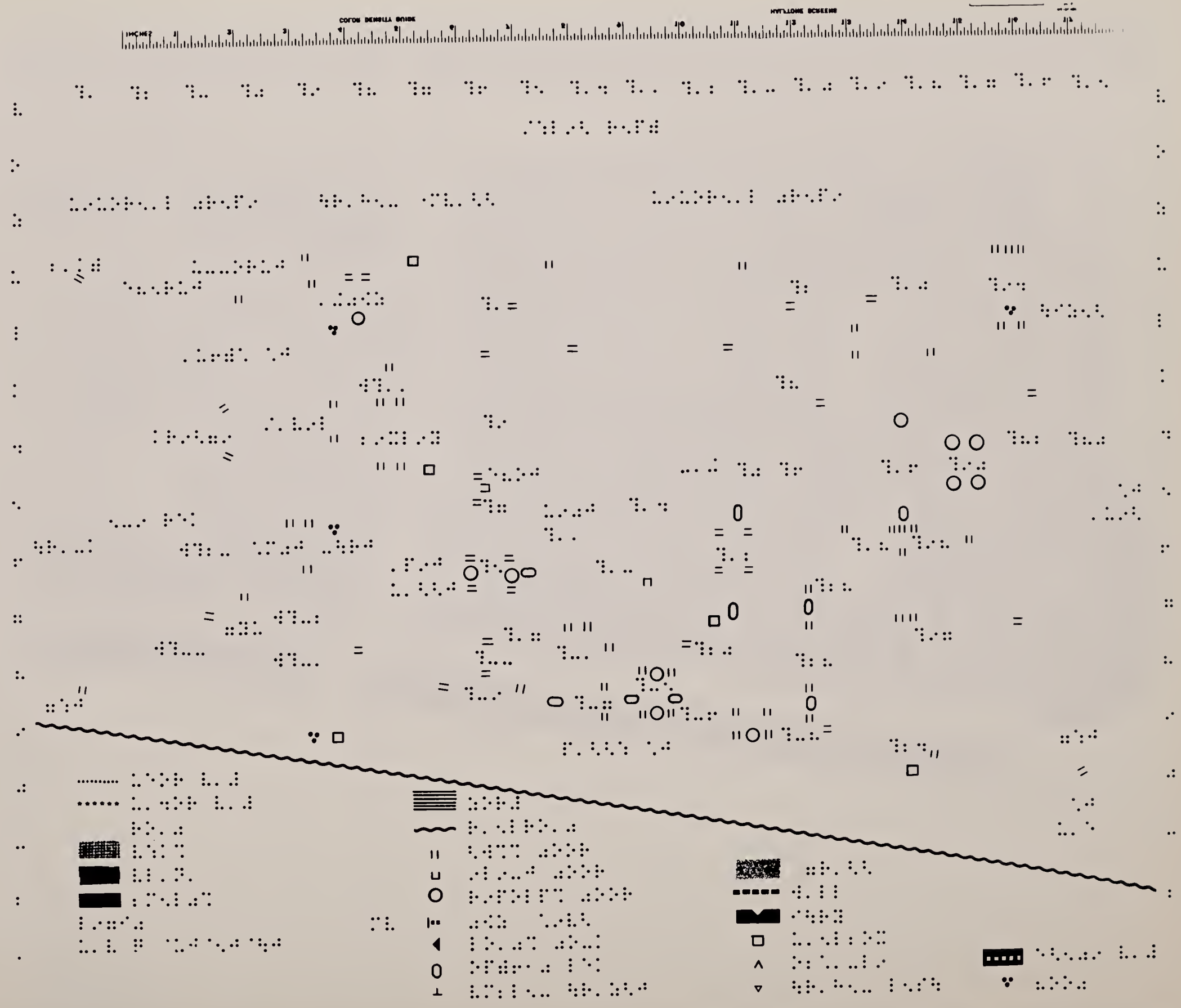


FIGURE 3
The Hand-Made Map
Tested in This Study.
Back-side of Map
Reproduced on the Following Page



Testing the Map

☐ Our tests involved reading sessions rather than actual trips made with the map in hand. The preference of the students was for a map that they could study at home. Most were accustomed to memorizing a route before they traveled it alone. Also, these were MIT students who already had achieved a high level of familiarity with portions of the campus. The blind traveler visiting the campus for the first time might actually want a simpler map to carry with him. We were curious to see if the MIT students would be able to recognize familiar locations and routes on the map and perhaps in doing so discover other physical relationships that would be helpful to them. It would also be interesting to see how much of the campus the blind Harvard students could perceive from the map.

Results

We hoped in these tests to answer some of the questions about the representational quality of the symbols and to determine how the map was generally perceived. Except for Proscia, whom we needed to test in order to evaluate the content of the map, we read a brief introductory statement suggesting that the map be placed with the topside facing up and briefly describing the legend. We also explained that the material on the back was registered with the front.

General observations

Almost everyone turned the map over to read the legend. When they finished, they turned the map over again and surveyed it with both of their hands. Buildings were immediately perceptible. Streets were not so obvious. In particular, the MIT students relied heavily on their campus experience to help them relate the physical structural landmarks and reference points to the map. They readily located Massachusetts Avenue, the Main Building, and Vassar Street to use as a framework for grasping the more detailed particulars. The Harvard students, neither of whom were familiar with the campus, were much slower in locating and relating these structural features on the map to one another, and having found them, they tended to lose them again. It therefore required a much more concerted effort on their part to scan the map for roads, which were denoted by the base surface of the map. It would be desirable in a subsequent map to define the roads in such a way that they are more readily distinguishable from the rest of the map.

Reading the reversed braille

Far and away the most interesting and variable responses were elicited by the braille on the backside of the map—it initially provoked strong negative reactions from most of the students. Finding it difficult to read at first, four of them adjusted quite rapidly to the inverted braille format, while three others had considerably more difficulty. Because she was not a proficient braille reader, BC could not perform this part of the test. Everyone felt that it would be better to write the legend in normal (writer) braille since they found it easier, despite our directions to read the legend when the map was placed with the braille side facing down. Those adjusting quickly were able to read the registered brailled information when the mapside was facing up. After working with the braille for at least an hour, they were asked to evaluate this method. Two responses were negative, three were midly negative, and two were positive. JK's response was particularly interesting. Initially the most

negative of all, he could barely read the braille on the first morning we tested the map with him. He took the map home for a day. Two mornings later we met again. By now, he had become quite adept with the braille and said that he did not think we should change to writer braille because the map worked well for him this way—he could read the braille with the braille side facing down. From all of this we have been able to determine two things for sure: that for most it takes an hour or so to get used to the inverted braille and that it is then possible to read the map with the braille side facing down. It is necessary now to consider whether registered normally-brailled information can be read when the backside is facing down. If it is possible, then writer braille should be used on the back of the map.

Learning From the Map

☐ There were other signs besides their words of encouragement that led us to believe that the students were really beginning to use the map as a map. BC said that she had not realized that the Student Center was north of the Massachusetts Avenue crosswalk and sidewalk leading to Kresge. She had not kown where Vassar Street was located or that it was a northern boundary of the campus. After only a few minutes with the map, GL exclaimed that we had omitted the sailing pavillion. AD called us on an entrance to Building 24 that we had overlooked. Although ML was extremely familiar with the eastern portion of the campus, he was surprised to discover a mailbox on the map that he had never realized was so close to 77 Massachusetts Avenue. CN discovered from the map that the ice rink was not a building but an outdoor area. She located steps that we had included between Buildings 5 and 7 that were not there and suggested that we include the overhead link symbol between the two halves of Building 54. Later CN told us that the day she kept the map she used it to find a new route to Sensory Aids, Building 31, by way of Building 13.

Conclusions

☐ The obvious need for this map, the encouraging responses of the students, and the committment on the part of the MIT Planning Office to produce a tactual map of the campus has prompted the design and testing of a second tactual map on our part which we hope will represent a significant improvement over the first map. (Part of this map is reproduced on the cover of this issue of the *New Outlook*.) Through the analysis of our test results, we have made several conclusions which have been considered in the design of the second map. Concerning representation:

Representation

1. The design of a map must allow for a wide range of tactual acuity in any user sample. Having little to do with intelligence, these perceptual variations reflect the kinds of experience a person has had with tactual displays as well as possible physiological variations in his make-up.

2. The number of symbols can be reduced on a map if the ones chosen are selectively combined to express additional relationships.

3. Low field areal symbols should not be used together. The low field plaza and grass textures were totally indistinguishable from each other on the map.

4. Three-point symbols including the loading dock, traffic light, bus stop, obstacle, and food were frequently confused.

5. Clear symbols included the mailbox, revolving door, swinging door, building, minor path, north indicator, and water.

6. A tactual system of complex registration, as demonstrated by the front/back correlation on the map tested, presents no problems perceptually.

7. It is important to indicate roads so that they immediately stand out from the other features shown on the map.

8. Acetate overlays should be avoided in the drawing stage because of the resolution problems they create.

9. Symbols in a legend should be grouped according to kind (i.e., building texture, inside corridor, and entrance, all employ the solid field and should be shown together. Streets, service roads, and tracks should be grouped together.)

10. Everyone tested preferred writer braille for the legend.

11. Small hand-drawn symbols reproduce unevenly in polyvinyl chloride.

Content

Concerning content:

1. The major/minor pathways proved to be a needlessly confusing distinction. Students tested felt that route evaluation at this scale was a matter of preference which the traveler himself could express by evaluating the hazards represented on the map.

2. If a corridor network is shown, it should be completely stated. Students tested were puzzled about why the corridors stopped when the building turned.

3. In choosing an appropriate symbol for representing physical things, one should consider use first, appearance second. A particularly good example is the Student Center steps. Benches located under a low overhang block access to the lower steps from that direction. We were not sure what to show. CN recommended that we use a wall.

4. The overwhelming preference was for a map that showed too much information rather than too little. Students said they did not mind spending the time it took to read this tactual map.

5. A supplement, brailled and/or taped, introducing the user to the map, referring buildings to grid numbers, and containing other pertinent information, should be included.

Notes

1. J. A. Leonard, "Aids to Navigation: A Discussion of the Problems of Maps for Blind Travelers" (a paper presented at the St. Dunstan's International Conference on Sensory Devices for the Blind, London, 1966), p. 8.
2. J. A. Leonard and R. C. Newman, "Three Types of Maps for Blind Travel" (*Ergonomics* 13[1970]:165-79), p. 171.
3. J. C. Sherman, "Needs and Resources in Maps for the Blind" *(New Outlook for the Blind* 52[1965]:130-34).
4. A process which chemically etches tactual levels into plastic sheets has been used to produce credit cards and forms for printing work. The little research conducted to date into its tactuality indicates a potential for some

kinds of tactual displays. There are problems to be overcome. Visually attractive, the two-color samples we saw were sharp and hard to the touch. There is a possibility that a softer plastic could be used to improve its tactuality.

5. J. W. Wiedel and P. A. Groves, *Tactual Mapping: Design, Reproduction, Reading and Interpretation* (Final Report RD-2557-S, U.S. Department of Health, Education, and Welfare. Baltimore: University of Maryland, 1969), pp. 2-3.
6. Billie Louise Bentzen, "An Orientation and Travel Map for the Visually Handicapped: Hand-Production, Testing, and Commercial Reproduction" (an unpublished master's thesis, Boston College, Department of Special Education, Peripatology, 1971).
7. This estimation is subject to the approval of Plastic Lace, Inc., Peabody, Massachusetts.
8. C. Y. Nolan and J. E. Morris, *Improvement of Tactual Symbols for Blind Children* (Project No. 5-0421, U.S. Department of Health, Education and Welfare. Louisville, Kentucky: American Printing House for the Blind, 1971).
9. We asked JK to describe the campus before presenting the first tactual map to him. In this way, we could evaluate the contribution of the map to his conceptualization of the campus.
10. Bentzen, op. cit., p. 55.
11. Wiedel and Groves, op. cit., p. 49.
12. Ibid, p. 16; Bentzen, op. cit., p. 29.
13. Leonard, op. cit., p. 10; J. P. Angwin, "Maps for Mobility" (*New Beacon* 52[1968]:115-45), pp. 118-19.

Another Map-Making Venture

"'What we're going to do is to count the steps it takes to walk to each of your classes. While I'm counting, you're going to make a braille map for yourself,' [Mother] informed me.

"For the next several days I followed her all over the Harvard campus making one braille map after another. This was necessitated because each day Mom discovered what she thought was an easier route from class to class. We not only counted steps from class to class; we also counted steps inside each classroom building. For instance, did you know that it's a hundred and twenty-two steps from the third seat in the front row of Emerson Hall to the drinking fountain. . . .

"At long last, even Mother was satisfied with the first edition of the Krents braille map and went home. It was with a spirit of quiet confidence that I set off on my first solo trip to my first class on the first day of my first year at Harvard. What began as a stroll to Social Sciences 1 became a journey when I made the discovery that the scale of the Krents map was based on the length of my mother's footsteps rather than my own."

—From *To Race the Wind,* by Harold Krents (Putnam, 1972), pp. 198-99.

Behavioral Strategies and Problems in Scanning and Interpreting Tactual Displays

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The purpose of this study was to determine the behavioral strategies and techniques that experienced adult blind persons employ in exploring tactual maps and in performing certain simple map reading tasks. This study was not undertaken to provide absolute answers to the myriad of problems that exist in the area of tactual maps, but rather as a heuristic device for generating information, ideas, and hypotheses about the problems that confront the blind reader of tactual maps.

Background

☐ There are at least three general problems in the production and use of maps: legibility, organization, and the strategies and techniques of the readers. The first problem is best exemplified by attempts to transcribe a print map directly into a tactual counterpart, a practice which often results in illegible, unreadable, and infrequently used maps. Research has been conducted on the factors related to the legibility of symbols[1] and to the total design of maps,[1,2] but these investigations have only begun to tackle the myriad of problems inherent in the legibility of complex tactual displays. The second problem concerns the manner in which information is displayed on a tactual map so that it is readily understood by the reader. The third problem, and the specific focus of the present investigation, is the behavior of the blind map reader in using tactual displays. This problem has been almost entirely ignored in the literature. Previous research[1] showed that blind students in both primary and secondary school had so little experience in reading tactual displays that more than two-thirds of them were unable to locate highly discriminable symbols on a map. Observations suggest that the principal factor underlying this lack of ability to locate the symbols was inadequate scanning of the map; not only was there apparently no systematic scanning strategy, but the students tended to perseverate on one small portion of the map.

Average student is a poor map reader

One could attempt to remedy this situation by logically determining a number of strategies which could be employed in searching a tactual display. It seemed more fruitful, however, to determine what strategies and techniques experienced adult blind users actually employ in reading tactual displays and then to investigate these behaviors with blind children. Although it is not valid to generalize the behaviors of adult users to young children, such data does provide information upon which subsequent empirical investigations can be based.

Approaching the problem

Subjects Used in This Study

☐ In this study, 12 blind adults who were known to be skilled users of complex tactual materials were sent a tactual pseudo-map and asked to perform a number of map reading tasks. Subsequently, each individual

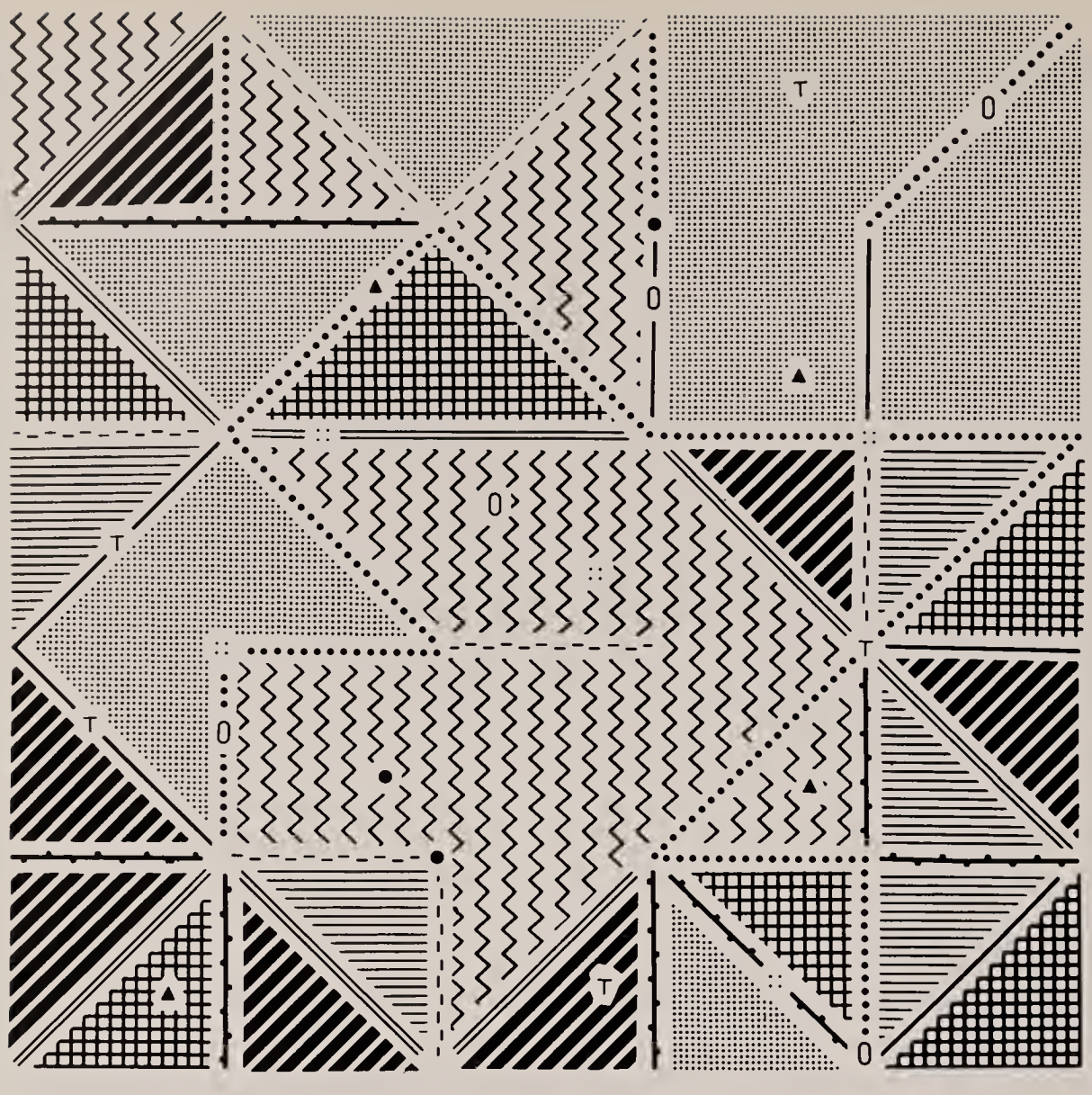


FIGURE 1
Diagram of the Tactual Pseudo-Map (The dotted tabs that were fastened to the top edge and used to orient the display properly are not shown.)

was interviewed over the telephone and asked to describe the strategies and techniques used and the problems encountered in performing the tasks and in reading tactual materials in general. The interviews were tape-recorded with the permission of each subject. Those participating in the study were Christine Baugh, Dr. Thomas Benham, Dr. John Crandell, Dr. Mae Davidow, Anthony Evancic, Dr. Emerson Foulke, Betty Gissoni, Fred Gissoni, Ross Huckins, Dr. Arthur Lown, Dr. Abraham Nemeth, and Vito Proscia.

Materials

The map, diagrammed in Figure 1, contained three kinds of symbols: areal (.015 inch high), linear (.025 inch), and point (.035 inch). The separation between symbols was .150 inch. The maps, which measured 15 inches on a side, were produced through vacuum-forming styrene plastic from male molds which had been made by a photoengraving process.

Instructions

☐ Each subject who had agreed to participate in the study was sent a copy of the map and the following instructions:

"The enclosed pseudo-map consists of a number of areal, point, and linear symbols. Lay the map and the key on a table top in their proper orientation by placing the side which has two dots in each corner at the top. Place the key, which consists of three different symbols (one point, one areal, and one linear symbol), next to the map.

Point symbols

"**Task #1—Location of Point Symbols.** On the map there are five instances of the one point symbol given in the key. We would like you to scan the map and locate each of the five instances of this one symbol. As you scan the map please pay particular attention to the techniques you use, such as the hand and finger motions you use, the number of fingers you use, what parts of the fingers you use, and what difficulties you have in locating the symbols.

Areal symbols

"**Task #2—Location of Areal Symbols.** On the map there are six instances of the one textured area symbol given in the key. We would like you to scan the map and locate each of the six instances of this one symbol. Again pay particular attention to the techniques you use.

"When you have completed these tasks try and determine the similarities and differences in the techniques you used in scanning the map for the two different kinds of symbols. For example, were your finger motions the same or were there subtle differences?

Following a track

"**Task #3—Following a Track.** The remaining symbol in the key is a dotted track. At the beginning of the dotted track there is a point symbol which indicates the starting point. On your map you will find the starting point three inches from the extreme lower right-hand corner. Once you have located the starting point, we would like you to follow the track represented by the dotted linear symbol until you come to the goal which is signified by the same point symbol as you began with. Again, we would like you to pay particular attention to the strategies and techniques you use in following the track and experiment with alternative strategies.

"When you have completed these tasks we would like you to think about and possibly make a list of the techniques and tasks you think are necessary for efficient map reading.

"During the recorded telephone interview we would like you to have the map, the key, and any notes you have made in front of you for easy reference. Please remember the date and time for our scheduled recorded interview."

Results

☐ Rather than describing the strategies, techniques, and comments of each of the participants, an attempt is made in the following discussion to delineate the major commonalities and dimensions of difference. One obvious difference in scanning techniques was the fact that some subjects scanned the map using only one hand while others used two hands. With two hands about twice as much area can be covered as with one hand, thus increasing the tactual field of view. It was suggested that scanning the map with two hands at the same time also results in a better notion of the two-dimensionality of the map, its spatial organization, and extent.

One-hand search

Other subjects searched the map with one hand while the second hand served as a reference point along the side of the map. The reference hand determined how far to scan down the map and reduced the possibility of repeating or skipping a section of the map. For example, some subjects scanned the map as if they were reading a braille book: the left

hand is placed on the left edge of the map and the right hand scans from left to right across the map as if reading a line of braille; upon reaching the right-hand edge of the map, the scanning hand returns to the reference hand and the reference hand moves down the map about the width of a braille line; the reference hand moves down the map each time indicating the next horizontal section of the map to be scanned. Thus, by using a reference hand, the subject can define the width of the scanning band and maintain his orientation and location on the map. Those using a two-hand strategy indicated that location and orientation on the map were not a problem; evidently these subjects used arbitrary reference points on the map to maintain their orientation.

Horizontal vs. Vertical Scan

☐ Several subjects using either one or two hands scanned across the map from left to right or right to left. The subjects differed with respect to what they did after they completed scanning a horizontal section of the map: some returned to the side of the map on which they had begun and then scanned across in the same direction; others when they had completed scanning, moved their hand(s) down and scanned back across the map in the opposite direction. A possible disadvantage of raising the hand(s) and returning to one side may be that it takes more time and increases the probability of losing one's location on the map. Several subjects using either one or two hands scanned the map in columns, top to bottom or bottom to top. As with the horizontal scan, some picked up their hand(s) and return to the starting point; others alternately scanned up and down the map.

Differences in scanning

Scanning horizontally or vertically may make a difference in the speed and/or accuracy of the search task. For a horizontal scan the width of the area covered (scanning band) is limited by the physical extent of the fingertips. Assuming that three fingers are used, the fingertips cover a band width of between one-half and one inch; covering a 15-inch map would, therefore, require 15-30 horizontal scans. For a vertical scan, the scanning band is determined by the combined width of the number of fingers used. Assuming that the first three fingers of one hand are employed, the average scanning band is between one and two inches; covering the map would require only eight to 15 scans. If two hands are used in a horizontal scan, with one hand trailing behind the other, there is no increase in the amount of area covered because the fingertip length defines the width of the scanning band. However, if two hands are used in a vertical scan, the field of view is doubled because twice as many fingers are used. Thus, a two-hand vertical scan should result in a dramatic reduction of time because fewer successive scans are necessary to cover the entire map. On the other hand, a horizontal scan permits greater redundancy, since each of the fingers must cover approximately the same area that each of the other fingers cover. Using two hands could further increase the redundancy because one hand follows the other, resulting in twice as many fingers covering the same area. It would be interesting to determine, therefore, whether a vertical or a horizontal scan is faster and/or more reliable.

Value of two-hand vertical strategy

☐ The assymetrical horizontal scan is a variation of the simple horizontal scan. In this strategy both hands are placed on the top central part of the map. The left hand scans to the left edge while the right hand scans to the right edge of the map. When both hands reached the opposite sides of the map, they both scanned back toward the center of the map covering the same area as they scanned before. When the hands meet in the center of the map they are moved down and the whole process is repeated.

Perimeter scan

In the perimeter or clockface scan, the hand(s) scan around the perimeter of the map and successively move closer to the center, each time scanning smaller, inner perimeters. There are two different hand motions that are utilized. In one case, both hands move in the same direction around the map with one hand following the other; or, one hand moves in a clockwise direction around the perimeter of the map while the other hand moves around the perimeter counter-clockwise.

Bounded search

In the bounded search strategy, square or rectangular areas are outlined on the map and searches made within the bounded areas for particular symbols. If the map does not lend itself well to defining these areas, then "imaginary" squares can be arbitrarily defined and systematically searched. This strategy may have an organizational advantage in that one can note or tag the various cells or bounded areas and thus remember the symbols and organizational features of the map by recalling the spatial location of the cells and the details within them.

Density distribution scan

In the density distribution strategy, the map is scanned swiftly to determine the location of the greatest number of symbols. A detailed examination then begins with the area of the map which has the fewest symbols and then continues to areas of increasing concentrations. This kind of search thus enables the subject to order the task along a dimension of difficulty. It requires the subject, however, to remember what areas have already been searched; if there are several instances of the same symbol on the map, there is the possibility that the subject could identify the same symbol twice or miss a symbol.

Spoked wheel scan

In the spoked wheel strategy, the center of the map and/or a distinctive symbol near the center is located. This point then serves as a reference point around which the other symbols on the map are organized in a spatial array. To search for other symbols on the map, one hand holds the reference point while the other hand scans from the center to the outer edge in successive scans. This strategy provides for a specific organizational structure and potentially has the advantage of allowing the reader to obtain information about the spatial array in a systematic and integrated fashion.

Teaching different scanning strategies

From a theoretical standpoint all of the strategies described have advantages and disadvantages. One simple way to proceed is to train children at different grade levels in the mechanics of each of these strategies and then determine the efficiency and accuracy of each. In addition, it is important to determine what specific information each strategy allows one to obtain that the others do not. It may be that some of these strate-

gies are more effective for organizing and determining spatial relationships, while others may be more appropriate for different age ranges and levels of functioning.

Hand and Finger Utilization

☐ Most subjects indicated that the primary fingers used in obtaining information were the index and middle finger. Several indicated that the ring finger was of use in obtaining information, but almost all indicated that the thumb and little finger provided very little information and were mainly used for support. The subjects also indicated some possible differences in the parts of the fingers used in searching a map for areal as opposed to point symbols. For areal symbols the hand(s) were placed flat on the map and more of each finger was used to pick up information. For point symbols most only used the fingertips. However, some subjects used only the fingertips in searching for both kinds of symbols. Thus, it may be important to determine how many and what part of the fingers can be utilized in locating various types of symbols.

Micromotions

Another important dimension has to do with the micromotions of the fingers as one searches the map. As is well known in teaching braille reading, additional motions (up and down, circular, etc.) are discouraged. This is principally because each braille cell fits under the fingertip and the braille information is displayed in a linear fashion. On a map, however, not all of the symbols are small enough to fit under a fingertip and the information is not displayed in a linear fashion. Some of the subjects used additional micromotions when they were searching the map. Some used an up and down motion, a wavy motion, or a circular motion as their hand(s) scanned the map—even though they indicated that they do not use these motions when they read braille. The question is whether such micromotions facilitate the detection and discriminatory capacity or whether they hinder it. It is well known that movement is a necessary condition for adequate tactual perception and it may be that these additional micromotions aid in the tactual perceptual process for tactual displays which incorporate symbols that are not of a punctiform configuration, that are larger than the traditional braille cell, and that are not displayed linearly.

Distance between hands

Another difference between the subjects who used a two-hand strategy was that some maintained a constant distance between the hands as they scanned the map, while others varied the distance between their hands. In addition, some indicated that when using two hands, each hand worked independently, picking up different information; others indicated that one hand picked up information while the other served a checking function. Some suggested that the hands engaged in both types of activities.

Areal vs. Point Symbols

☐ Most subjects indicated that the areal symbols were easier to locate than the point symbols because the areal symbols were larger than the point symbols. Furthermore, when searching for an areal symbol some subjects indicated that they attempted to detect a change in the "rhythm" since textured surfaces provide a sort of rhythmic pattern.

In searching for point symbols it was suggested that the whole

hand could be used in an attempt to detect "bumps" on the map. When a "bump" is detected the index finger can then be brought to bear on the symbol to determine if it is the target symbol.

Tracking

☐ The third task that the subjects were asked to perform was to follow a dotted track from the starting point indicated by the 0 in the lower right hand corner of the map to the goal indicated by another 0 at the lower left. There was notable consistency between individuals in the way they followed the track. With the exception of one person, all used two hands in which one or two fingers of one hand would lead, while one or two fingers of the second hand would trail behind. When a choice point was reached (a right or left turn), one hand would hold the track while the other hand would scan ahead looking for the continuation of the track.

One-hand tracking

One individual used a one-hand strategy which was remarkably similar to the two-hand strategy just described. With a one-hand strategy one or two fingers followed the track and when a choice point was reached, one finger held the track while the other finger searched around for the continuation of the track. It was suggested that when using only one hand, the thumb could be placed on the track as a pivot and then one or more of the fingers could be used to search for the continuation of the track. In this way the thumb-to-index-finger span could be used to locate the continuation of the track.

Orientation

☐ An obviously important starting point for all map-reading tasks is to place the map in its proper orientation. To accomplish this, there needs to be some easily accessible stimulus with which to differentiate the top from the bottom of the map. In the present situation tabs were provided at the top two corners of the map. All the subjects indicated that they aligned the bottom of the map with the table top or with the horizontal plane of their body. Subsequently, all the subjects indicated that they gave the map a swift scan before proceeding with the required tasks. The swift scan is a preliminary activity which consists of running both hands over the entire map and usually requires less than one minute. The subjects suggested that a swift scan provides useful information for subsequent tasks. With a swift scan they were able to determine the overall size of the map, an approximate notion of the number of symbols on the map, the nature of some of them, and their density, distribution, and general location. It also enabled them to determine the highly distinctive features of the map; these subsequently served as reference points around which the search process could be organized and may form the basis of a tactual-kinesthetic image of the map. Apparently the swift scan provides an abundance of information in an extremely short span of time. From an empirical standpoint, research could focus on just how much information can be gained from a swift scan, how much is remembered, the organization of that information, and how it is employed in subsequent map-reading tasks.

Value of the swift scan

Directional Orientation

☐ Just as one needs to know his spatial orientation in the environment, one also needs to know his spatial orientation on a tactual display

such as a map. Most subjects emphasized the need for gross differentiations on the map such as top, bottom, left, right, north, south, east, and west and the use of the sides, corners, and distinctive features of a particular map as reference points with which to orient oneself on the map. It was suggested that the more reference points one has, the better is one's sense of spatial orientation and spatial relationships on the map. Some subjects suggested that the north part of the map be oriented in the same direction as physical north because to call the top part of the map north and then have the top of the map oriented, for example, toward the west wall of the room would be confusing to blind children if they were learning about compass directions. One subject suggested that to determine spatial direction on a map one should liken the map to a clock face with the numbers evenly spaced around the outer edge of the map. The reader could then use the clock face analogy to specify the location of symbols. The location of a symbol on the map could be specified by giving a number and its distance from the center of the map.

North on map toward physical north

☐ A number of questions arise in relation to keys. How many symbols can be put on a key before the key becomes burdensome and difficult to use? Are there age/grade developmental differences in the number of symbols a child can handle adequately? When should keys be introduced in the map-reading task? Should a child begin by memorizing a key rather than referring to it often? The subjects varied greatly in their suggestions about keys. Some suggested using keys early in map training, others only after other skills had been developed. Some thought that memorization is better than referring often to the key. Some suggested that the number of symbols be kept to a minimum (4-5) and gradually increased in number. Many subjects thought that children should be taught to refer to the key with one hand while holding their location with the other. In memorizing keys a few subjects suggested that it might be easier to memorize some symbols than others. It was suggested that it might be easier to memorize symbols which are of different shapes than those which are of different textures. Thus, the use of keys opens up the whole area of tactual memory and the factors which facilitate and interfere with encoding, storage, and retrieval of tactual information.

Keys

☐ One word that is often used when referring to maps that are difficult to read is clutter. What factors produce clutter? As it turns out, different people mean different things when they refer to clutter, for example, irrevelant information (dots, lines, textures), too many symbols, spacing between symbols, too many different symbols, too many similar symbols, the similarity of symbols irrespective of how many there are, and too many symbols per unit of area. All of these factors play a role in tactual perception, but just how was not apparent for all the factors mentioned. But most important, no information is available on how these factors interact with each other or how these variables affect each other in reading a tactual display. The word clutter appears to be a "wastebasket" term for everything that is currently wrong with

"Clutter"

tactual maps and more research is needed to determine what factors contribute to legibility and perceptual clarity.

Teaching Map Reading

☐ All of the subjects interviewed suggested that map reading begin at the third grade or lower. Many felt that maps could be introduced as early as kindergarten. Initially, children should be taught basic texture and shape discrimination skills and concepts. Although the following list is far from exhaustive, it presents some basic concepts and activities that were deemed necessary by the subjects in this study:

Meaning of a symbol

1. *Meaning of a symbol.* The child needs to develop the concept of symbolization. One teacher suggested that the classroom teacher could begin by placing four objects on a desk such as a spoon, comb, pencil, and book. These objects would be placed on the top, bottom, left, and right sides of the desk. After the children were able to locate the objects on the desk using directional instructions (left, right, top, bottom) or compass directions (N, S, E, W), the teacher could replace the objects with the words for the objects, showing that the word can stand for the object. Next, the teacher could replace the words with the first letter of each word, thus showing that a letter symbol can stand for an object.

Symbols

2. *Lines, points, and areal symbols.* There was disagreement as to which of these three kinds of symbols are easier to discriminate. Some suggestions for teaching these symbols, however, were: different maps could be designed using only one kind of symbol and the child would be asked to perform a number of tasks, like locating a particular symbol or specifying its location or relation to some other symbol; maps could also be developed to present a variety of symbols and the child could perform the same task on this map; maps could be gradually increased in complexity (i.e., by increasing the number of the symbols on the map).

Bounded areas

3. *Discriminating bounded space.* Children should be taught that bounded areas can be differentiated by the type of line that bounds them, by the shape of the bounded area, and/or the texture of the area within the bounded space.

Relation to environment

4. *Representations of the environment.* Probably one of the most emphasized points was that, in beginning map-reading instruction, maps should represent concrete situations that are highly familiar to the child, such as a map of his classroom, bedroom, neighborhood campus, the route he takes when going from one classroom to another classroom or from building to building, etc. Thus, for young blind children, maps would take on meaning; then, they could be taught that maps can represent environments that they have never had contact with.

Spatial relationships and memory

5. *Spatial relationships and memory.* The child should be taught that when reading a map he can gain certain information that he can retain for further use. For example, one reader suggested that in a map of the classroom, the teacher could "hide" candy in various parts of the room and then indicate on a map where the candy was and tell the child to find it. Or, the teacher could ask each child to traverse a path on the map to indicate how he would get to someone else's desk or a certain part of

the room if he were at some given location, or the alternate paths one could take to get from his desk to someone else's desk.

Finally, all the readers were asked if they thought tactual representations added anything above and beyond a verbal description. All agreed that tactual maps were necessary and important for the education of blind children and that when combined with a verbal description it provides for the most meaningful educational experience.

Conclusions

□ These interviews provided basic information on a variety of behavioral techniques and problems related to tactual displays of information. Of course, the information obtained here was limited to experienced, adult blind readers on a limited number of behavioral tasks. Further empirical study needs to be undertaken so that generalizations can be made to children on a variety of behavioral tests. It is apparent that the problem of research on the legibility of complex tactual displays is hampered by the behavioral techniques and the variety of tasks the reader may perform. Consequently, research needs to focus not only on the behavioral techniques and tasks, but also on the design and legibility of the displays as related problems.

In addition, we must look at the early childhood experiences and concepts about space, spatial relationships, and the geography of the child's immediate environment to insure that there is a thorough understanding before introducing a child to a two-dimensional display representing a three-dimensional world. Furthermore, the concepts and behavioral tasks necessary for reading and interpreting tactual displays appropriate for each age-grade need to be explicitly defined.

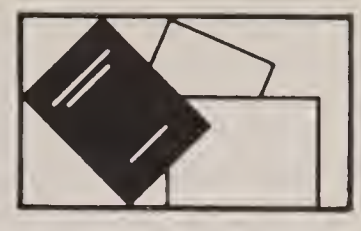
Send responses to the author

Finally, suggestions, comments, and ideas from teachers, educators, geographers, and psychologists are needed on the general and specific behavioral techniques, concepts, and concrete experiences the blind child needs to develop in relation to the problems of scanning, reading, and interpreting tactual displays. All responses should be addressed to Dr. Edward P. Berlá, Educational Research, Development, and Reference Group, American Printing House for the Blind, P.O. Box 6085, Louisville, Kentucky 40206.

References

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2. Wiedel, J. and Groves, P. *Tactual Mapping: Design, Reproduction, and Interpretation: Final Report.* U.S. Department of Health, Education, and Welfare Grant No. RD-2557-S. College Park, Maryland: University of Maryland, 1969.

Review



Coping With the Unseen Environment, by Herbert Rusalem, New York: Teachers College Press, 1972. 362p. $11.50.

Reviewed by Dean W. Tuttle, Ph.D.

Herbert Rusalem's *Coping With the Unseen Environment* is one of the few books on the market which adequately introduces the reader to the field of vocational rehabilitation for blind persons. In a day when general rehabilitation counselors are increasingly being asked to serve blind persons as a regular part of their caseloads, this book provides the essential information in a single source. Prior to this time, those who worked with blind adults had to piece together their own source material. The generalist cannot afford to spend time looking for source materials in many different places.

Dr. Rusalem estimates that less than 20 percent of the blind population are eligible for competitive employment. Startling as that may seem, it becomes more comprehensible when one recognizes that more than half of all blind persons in this country are over 65 years of age. Does this imply that the other 80 percent are not eligible for vocational rehabilitation services? Not at all. Dr. Rusalem makes a good case for the need to improve services to 1) aging blind persons, 2) multiply handicapped blind persons, and 3) blind employees of sheltered workshops.

It is refreshing to note that the intent of the book is to highlight specific problem areas or consequences of blindness to which are applied some general psychological theories, general counseling theories, and general vocational rehabilitation processes. The overview of problem areas in the first chapter, along with the discussion of the consequences of blindness on pages 61-64, delineate the problem clearly and concisely.

With respect to psychological theories, the author says, "An overarching psychological theory of blindness is not available, so we are compelled to work with partialistic formulations, which, at best, are relevant for limited numbers of blind persons" (p. 65). With respect to counseling theories, "Rehabilitation counseling for blind clients is a special case of general rehabilitation counseling. Thus, the skills and knowledge required in all counseling apply to this caseload as well" (p. 184).

Several other sections of the book are noteworthy. Dr. Rusalem includes a section on the person whose visual functioning has been improved or restored either through optical aids or training, though he touches but lightly on the problems of the congenitally low-vision person. On attitudes, one is not surprised to find a discussion of public or family attitudes toward blindness. However, it is gratifying to find a discussion of the attitudes of blind persons toward the sighted and toward blindness.

The brief survey of occupational possibilities is intended to be representative, not exhaustive. Of particular import are his concluding remarks: "Rather than circumscribing career planning, job lists should always be open-ended. Thus the task of the counselor is not necessarily to find a niche in an existing structure but, more creatively, to identify suitable vocations for a blind client" (p. 109).

From an educator's point of view, there are many aspects of this book which reflect what actually happens in schools. For example, "Not infrequently . . ., despite secondary school prevocational experiences, such students emerge with their academic abilities clearly defined, but with many questions about their vocational interests and capacities" (p. 151). Public and residential school teachers are beginning to recognize that visually handicapped children need more than academic training. Though much needs to be done, "In recent years, some residential school programs for the blind have re-evaluated their offerings and have developed curricula and methods that have more immediate relevance for vocational development" (p. 152). On pages 156-63, Dr. Rusalem presents a number of important prevocational skills which are needed by visually handicapped children whether they get them at home, school, or thereafter.

As an introductory book on the vocational rehabilitation of blind persons, *Coping With the Unseen Environment* is without equal. It would be a good text for the vocational rehabilitation counselor, either generalist or specialist. It would be an excellent reference for teachers of visually handicapped children in secondary schools, parents, social workers, private and public agencies. It is a welcome addition to the literature for the profession.

Dr. Tuttle is assistant professor, School of Special Education and Rehabilitation, University of Northern Colorado, Greeley.

Psychiatric Disorders of Children With Congenital Rubella, by Stella Chess, M.D., Sam J. Korn, Ph.D., and Paulina B. Fernandez, Ph.D. New York: Brunner/Mazel, 1971. 178p. $7.50.

Reviewed by Joan B. Chase, Ed.D.

In the wake of the 1964 rubella epidemic, widespread concern has been expressed regarding the magnitude and severity of the consequences to those children whose mothers were infected during pregnancy. Congenital rubella can affect the fetus in varied ways, and research into pathologies, treatments, and prognoses has been limited. It is therefore encouraging to report that the survey and evaluation of such children, as well as some understanding of treatment needs and program, are greatly assisted by the appearance of this volume. Dr. Chess and her colleagues have earned an excellent reputation for pioneering in new child psychiatry terrain. They have

now applied their earlier approaches and findings to the problem of congenital rubella with skill and thoroughness.

Psychiatric Disorders of Children With Congenital Rubella reports the results of a behavioral study conducted in collaboration with the Rubella Birth Defect Evaluation Project at New York University Medical Center. The research presentation is organized in logical progression, and the writing style is clear, direct, and highly readable. The data, discussions, and practical insights render the book of value to a range of clinicians, behavioral scientists, and parents.

Two hundred and forty-three children were assessed for physical impairments, psychiatric status, behavioral disturbance, intellectual development, levels of functioning, and temperamental dimensions. In addition to reports of these findings, clinical issues surrounding neurological defects, autistic symptoms, and impact upon families are discussed at some length. The relevance of and criteria used for each type of appraisal are clearly described. Where comparisons with other groups are appropriate, two former studies are cited (The New York Longitudinal Study of Thomas, et. al. 1963, N=136; and a Study of Mental Retardates by Chess and Hassibi, 1970, N=52). Further, the authors intersperse portions of actual case histories which amplify or lend reality to the particular aspects of the problem under discussion.

The manifold techniques of assessment and resultant overlapping of diagnostic variables provide a model for the interpretation of data regarding complex disorders. By approaching the sample studied via a sequence of evaluation modes and intragroup comparisons, the authors provide a textural awareness which far surpasses any one-dimensional description. Overlapping findings of severity of specific defects (e.g., vision, hearing, cardiac damage) in isolation and combination demonstrates the need for the type of analysis undertaken. Similarly, the use of a number of determinants for diagnosis of psychiatric facets of the problem yields new insights.

The authors are careful to point out limitations as possible questions arise. For example, the group of subjects was quite young (under school age) during the study, so that many behavioral attributes observed might have been transient, age-related tendencies. These possible contaminants are discussed carefully in the text. Further, the rigor of analysis employed for all-too-often subjective behavioral observations prevents the occurrence of broad generalizations. Several measurement techniques, such as the checklist of skills for "levels of functioning," are worthy of application to social behavior research with other groups of young children.

Although it is not the intent of this volume to offer program design or curricula for children with congenital rubella, the authors present justification for sophisticated early intervention, and give concrete, practical suggestions where indicated from the data. In a discussion of the encouragement of competence, based upon measurement of what the children *could* do vs. what they *would* do, the authors conclude with two crucial paragraphs which would evoke action on the part of professionals involved with families and rubella children:

> This means that increased emphasis must be placed on the routine performance of the child with defects. For him, each iota of competence is likely to make a difference in his ability to be incorporated in a learning, recreational, or social situation. One cannot assume he will eventually come to do that of which he is capable on his own. Rather, this actualization must be encouraged consistently. In order for him to achieve any measure of success, he must come to do most of what he is capable in a routine fashion—and this achievement cannot be left to time alone. His caretakers must realistically estimate his capacities and do all they can to realize his potential.
>
> It is in this perspective that the discrepancy between capacity and performance is most profitably viewed. This is not a way of distinguishing normal from handicapped children, but of calling attention to the need for outside intervention to bridge the gap in the handicapped. While no individual can function at full capacity all the time, the degree to which a child with defects falls below his maximum ability may be crucial. For it may determine whether he can take part in normal life or must lead a protected existence.

This reviewer was particularly impressed with the discussions of neurological defects, autism, and temperament. The cogent reviews of the first two issues set a tone which helps the reader "tease out" specific behavioral observations in congenital rubella children. In view of the breadth of evaluation offered, it is surprising that the researchers did not choose to utilize Rimland's checklist of autistic behaviors as a more specific tool for differentiation. They do, however, cite Rimland's work and maintain a level of strict definition and criteria for autism. With regard to temperamental dimensions, Dr. Chess and her colleagues have developed means of analysis with a number of groups of normal and impaired children. The application of these techniques to children with congenital rubella reveals once again that number and severity of resultant handicaps is highly correlated with "difficult" temperamental features. The finding that variability of temperament in those children less seriously affected correlates more highly with the normal controls than the retarded ones underscores the compounding effect of rubella impairment and uncovers practical application of the research.

The final chapter, which offers an overview of the findings and conclusions, is particularly rich in indexes for the future. By combining brief statements of findings with interpretive material, the authors leave the reader with a sense of awareness and direction. In view of the complexities of the problems posed by congenital rubella, the simplicity in style and directness of the summary statements is most welcome.

A major weakness in the study deserves mention. No discussion of congenital rubella is complete without attention to the range of concommitant language disorders. No mention is made of the types of aphasia which are seen, nor of the difficulties encountered in attempting to diagnose such conditions with or without a hearing loss. It has been the experience of this reviewer that congenital rubella children show more language/auditory disor-

der than actual deafness or measureable loss of hearing. Where central nervous system impairments inhibit the development of symbolic language and speech, the role of parents and professionals becomes more crucial and more difficult. It would therefore have been expected that a specific analysis of auditory perception, integration, and language development would be included in this otherwise thorough research. Attention to possibilities of aphasia and program suggestions for language encouragement are totally absent.

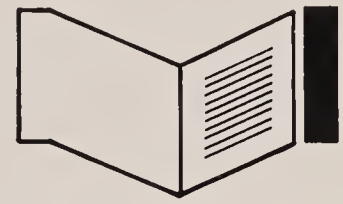
A related deficiency is found in the discussion of actual test procedures. Where deafness and/or language disorders exist, it would be incumbent upon the researchers to seek alternate means of evaluation of intellectual development, beyond the traditional methods (in the study, the Stanford-Binet, a highly verbal scale, was used). There are several excellent nonverbal measures, including the Hiskey-Nebraska Test with norms for deaf and hearing children, which might have supplemented the battery. Similarly, for those children with visual impairments, specialized measures such as the Hayes-Binet could have been employed.

Finally, the survey techniques used and comparisons charted are excellent, but some researchers might wish to find a more complete statistical analysis with the probability levels computed for the differences found between or within groups. The absence of such research refinements is, however, understandable when one assesses the purpose of the research and the total report.

Psychiatric Disorders of Children with Congenital Rubella promises to be a landmark publication for all concerned with the development and evaluation of multiply handicapped children. The book is highly recommended for parents and professionals whose concerns include the many problems encountered with children who have congenital rubella, multiple disabilities, and related developmental disorders.

Dr. Chase is associate professor and director of special education, College of Medicine and Dentistry of New Jersey, Rutgers Medical School, Piscataway.

Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind prepared by Mary Maie Richardson, chief librarian.

Congenital and Perinatal Sensory Deprivation: Some Studies in Early Development, by David A. Freedman. *American Journal of Psychiatry* (American Psychiatric Association, 1700 18th Street, N.W., Washington, D.C. 20009), Vol. 127, No. 11, May 1971, pp. 115-21. Text of a speech read at the 1970 annual meeting of the American Psychiatric Association.

The Establishing and Maintaining of a Material and Textbook Center for Visually Handicapped Students, by George V. Gore. Teachers College, Columbia University (525 W. 120th Street, New York, N.Y. 10027), Research and Demonstration Center for the Education of Handicapped Children, Working Paper, Vol. 1, No. 2, 1969, 10p. The author recommends a centralized collection of educational materials and describes the physical design and necessary equipment. He details specific problems encountered which can be solved only by close cooperation between the instructional staff and the center's personnel.

Recreation for the Blind: A Community Drama Project, by Chester T. Williams. *Therapeutic Recreation Journal* (National Therapeutic Recreation Society, 1700 Pennsylvania Avenue, N.W., Washington, D.C. 20006), Vol. 3, No. 4, 4th Quarter 1969, pp. 20-24. Description by the director of the Westchester Lighthouse for the Blind, New York Association for the Blind, of a joint theatrical project involving blind and sighted participants.

Blind Retardates Enter the Job Market, by Dwayne M. Scott. *Tennessee Public Welfare Record* (Department of Public Welfare, 410 State Office Building, Nashville, Tennessee 37219), Vol. 35, No. 3, June 1972, pp. 46-50. Brief report by the director of the Blind Retardate Project at the Orange Grove Center for the Retarded in Chattanooga, on a special training project. Although still in the experimental stage, the program has succeeded far beyond expectations.

Rural Studies for the Visually Handicapped in Schools, by C. Toft. *The Teacher of the Blind* (Royal School for the Blind, Church Road North, Wavertree, Liverpool, L156TQ, England), Vol. 60, No. 3, April 1972, pp. 97-106. Description of the study plan for a course aimed at developing understanding, appreciation, and use of various aspects of rural environment for personal and social well-being. It is a five-year course of two periods per week and embraces such disciplines as agriculture, horticulture, field and laboratory biology, rural crafts, and natural history.

Report of Meeting on Embossed Maps. *The Teacher of the Blind* (see address above), Vol. 60, No. 3, April 1972, pp. 110-16. Summary of a meeting held at Worcester College for the Blind (England) on De-

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cember 8, 1971, concerning improved methods of producing maps and diagrams. Researchers and teachers discussed problems involved in making the best use of the greater variety and flexibility made possible by the thermoform machine.

An Analysis of the Effectiveness of a College Preparatory Program for the Visually Impaired, by Clyde Raymond Smith. Doctoral dissertation, University of Tenessee, November 1969, xvii, 162p. (Available from Leasco Information Products, Inc., 4827 Rugby Avenue, Bethesda, Maryland 20014. Order #ED 039 658; Microfiche—65¢; Hard Copy—$6.58) Study of 45 high school graduates who entered college for the first time in the fall semester of 1968. The subjects were divided into two groups based on attendance or nonattendance of the college preparatory program of the Arkansas Enterprises for the Blind during the summer of 1968.

Selected Bibliography on Mathematics for the Blind, by Lawrence F. Geffen and Sandra J. Palmore. Ypsilanti, Michigan: Eastern Michigan University, August 1969. 13p. (Available from Leasco Information Products, Inc., address above. Order #ED 036 018; Microfiche—65¢; Hard Copy—$3.29) Arranged alphabetically by author, this bibliography includes historical and research material as well as methodolological articles for the teacher.

Soundstop: An Experimental Student Housing Study. Toronto, Canada, Ontario Department of Education, School Planning and Building Research Section, 1969, 40p. (Available from Leasco Information Products, Inc., address above. Order #ED 037 990; Microfiche—65¢; Hard Copy—$3.29) A detailed review of the design development of a housing facility for deaf and blind students. Each space in the final design is dealt with as to development, layout, and functional goals. Interiors for the various spaces are shown in several different schemes to meet the wide range of needs for the 6- to 20-year age range that will be served by the facility.

Effects of Environmental Conditions on Blind and Sighted Children as Measured by Structured Sound Situations, by Bernard Lax. Doctoral dissertation, The University of Texas at Austin, August 1970, 150p. (Available from University Microfilms, Inc., 300 North Zeeb Road, Ann Arbor, Michigan 48106. Order #71-11, 573, $10.00) Forty-five students (27 blind and 18 sighted) were tested with sound situations selected from the Braverman-Chevigny Auditory Projective Test and the Husni-Palacios Sound Test.

Comparison of Teachers' Rating of Behaviors of Partially Sighted Pupils and Their Fully Sighted Peers, by Margaret Woodland Rockwell. Doctoral dissertation, University of Maryland, 1971, 96p. (Available from University Microfilms, Inc., address above. Order #71-25, 257, $10.00) The study population (19 partially sighted and 57 fully-sighted) was drawn from elementary public schools in six counties and two states. Classroom teachers were asked to rate behaviors related to peer interaction on a five-point frequency scale.

The Hiring Policies of Selected Iowa Businesses and Industries With Respect to Employment of Blind Persons, by Donald Earl Black. Doctoral dissertation, University of Northern Colorado, 1970, 173p. (Available from University Microfilms, Inc., address above. Order #70-23,197, $10.00) Report based on tabulation of questionnaire responses by 84 small and 57 large businesses. Also included is a survey of 27 blind male clients of the Iowa Commission for the Blind with respect to their evaluation of the industrial arts training program.

Special note to librarians and researchers—a limited number of copies (all in new condition) of *The Adjustment of the Blind* by Hector Chevigny and Sydell Braverman, published by Yale University Press in 1950 and long considered out of print, are available from Elliot's Books, Box 6, Northford, Connecticut 06472. The price is $7.50, plus 35¢ per copy for postage and handling. Payment should accompany order.

ADDITIONAL LISTINGS

A monthly listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind *prepared by the editors.*

Agency Administration

Implications of Purchase of Service for Voluntary Agencies, by Gordon Manser. *Social Casework* (Family Service Association of America, 44 East 23rd Street, New York, New York 10010), Vol. 53, No. 6, June 1972, pp. 335-40. A study of future trends that reveals the potential for profound changes in traditional public and voluntary relationships and for the operation of agencies.

The Physical Therapist's Guide to Better Planned Meetings, by Jacob S. Schleichkorn, M.A. *Physical Therapy* (American Physical Therapy Association, 1156 Fifteenth Street, N.W., Washington, D.C. 20005), Vol. 52, No. 6, June 1972, pp. 671-73. A short summary of the important points to be considered in planning meetings.

The Process of Special Education Administration, by Charles H. Meisgeier and John D. King. International Textbook Co., (Box 30, College Department, Scranton, Pennsylvania 18515), 1970, 730p. $10.50. A volume of readings from a wide variety of fields with the emphasis on the administrative process in special education. Extensive bibliography.

Winds of Change: Report of a Conference on Activity Programs for Long-Term Care Institutions. American Hospital Association (840 North Lake Shore Drive, Chicago, Illinois 60611), 1971, vii + 40p. Chapters include definition of an activity program, requirements for implementation, staff participation, helping the patient adjust to a new role, helping the family in its new role, the community's role, and mobilizing financial resources.

Aging

SERVE: Older Volunteers in Community Service: A New Role and a New Resource, by Janet S. Sainer and Mary I. Zander. Community Service Society of New York

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(105 East 22nd Street, New York, New York 10010), 1971, 347p. $3.50. A report on the "Serve and Enrich Retirement by Volunteer Experience" project conducted on Staten Island, New York, from January 1967 through December 1969, including the types of activities, reactions of the 27 agencies and the 642 volunteers, and full particulars on how the program was conducted.

Attitudes

Attitudes Toward the Handicapped, by Leopold D. Lippman. Charles C Thomas (301-327 East Lawrence Avenue, Springfield, Illinois 62703), 1972, $9.25. The author, who is the director of services for mentally and physically handicapped persons for New York City, compares American with Scandinavian and English attitudes toward mental retardation.

Directories, Catalogs, Lists

Airline Transportation for the Handicapped and Disabled, by Stanley Hogsett. National Easter Seal Society for Crippled Children and Adults (2023 West Ogden Avenue, Chicago, Illinois 60612). Publication E-47. $1.25. A survey of the policies and procedures for movement of handicapped persons by 22 airlines, the Civil Aeronautics Board, and the Air Transport Association of America. Also included is information for the individual who accompanies the disabled person on his flight and for physicians who must often decide upon the fitness of an individual for an air trip.

Travel Directory. President's Committee on Employment of the Handicapped (Washington, D.C. 20210). This directory lists, by state, the more than 330 rest areas of the national interstate highway system which are accessible to handicapped travelers, gathered with the cooperation of the Federal Highway Administration and the officials of state highway departments.

Periodicals

Vendorscope. A new quarterly publication of the Randolph-Sheppard Vendors of America (order from Ione B. Miller, 9291 Fermi Avenue, San Diego, California 92123). Includes news, convention events, legislative matters, market items, merchandising methods, and the experiences of vending stand operators. Print edition only at present.

News in Brief

■ Senator Jennings Randolph (D.-W.Va.) and Noel B. Price, vice president and general manager of National Industries for the Blind, will receive the American Foundation for the Blind's Migel Medals for outstanding service to blind persons October 26 at AFB headquarters in New York.

The medal, established in 1937 by the late M. C. Migel, first president of the AFB, is designed to recognize professionally employed practitioners in education, rehabilitation, and social welfare concerned with blind persons, and lay persons who have voluntarily dedicated themselves to advancing services for blind persons.

Mr. Price is receiving the professional award and Senator Randolph the layman award.

In announcing the awards, M. Robert Barnett, executive director of the Foundation, said, "Senator Randolph's name is a legend in work for the blind, primarily because of his persuasion of the Congress to pass a law in the late 1930's which provided employment opportunities for blind persons through the operation of small business concessions on federal property.

"Since the passage of the Randolph-Sheppard Act, thousands of blind persons have been self-employed in the program. Most recently, Senator Randolph has led the movement in Congress to extend rehabilitation services to the vast number of persons who are elderly as well as blind."

Mr. Price has been head of NIB since July 1970. He joined the NIB staff as assistant general manager in 1964, after serving as manager of the Mississippi Industries for the Blind for 18 years.

He is being recognized for demonstrating at the local and national levels that "a facility can be both a successful production unit and a stepping stone for the adjusted blind person to move back into normal industrial employment," Mr. Barnett said, adding:

"His knowledge of industrial engineering and marketing is judiciously mixed with his humanistic motivation and his deep respect for individuals who need a boost to overcome their visual handicap."

■ The World Council for the Welfare of the Blind (WCWB) has enlisted the cooperation of UNESCO in its International Book Year campaign to supply more embossed and recorded literature to the world's 16 million blind people.

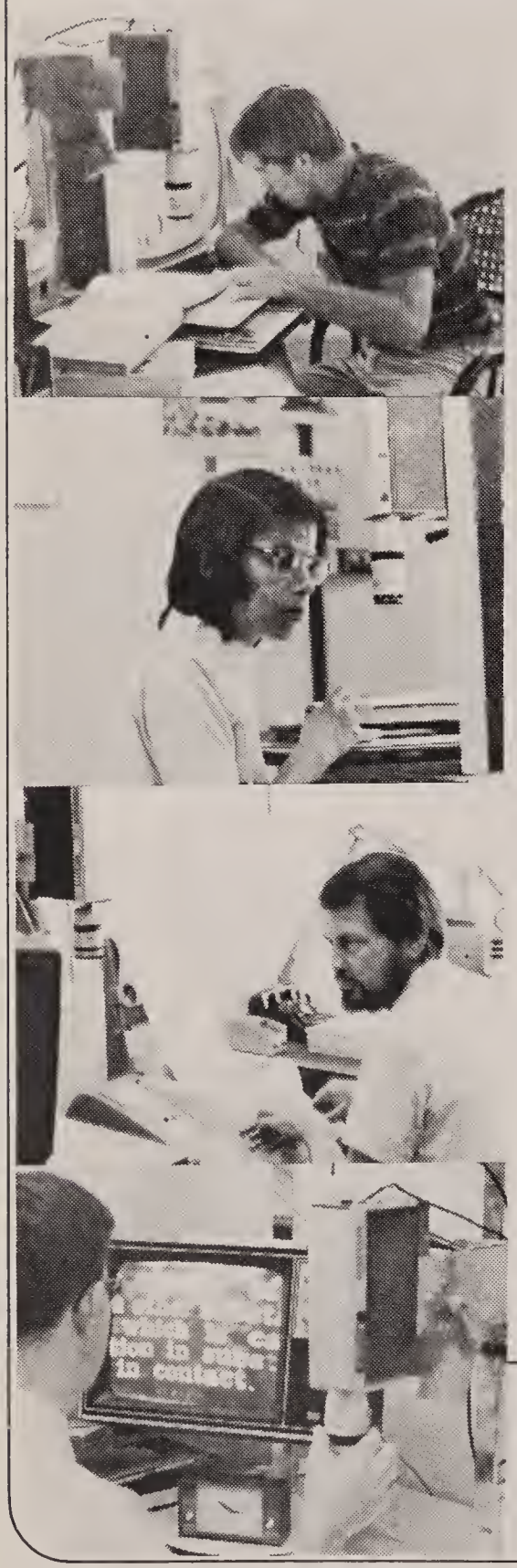
UNESCO will participate by selling UNESCO Gift Coupons to persons who want to support the effort. Similar to international money orders, UNESCO Gift Coupons can be purchased in 20 countries. The coupons will be sent to the directors of UNESCO projects in "third world" nations where they will be used to purchase books and equipment for the blind.

WCWB has also suggested that UNESCO study the possibility of developing a regional center for the production of

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braille books in developing areas. The WCWB has offered to be responsible for a feasibility study of the project, which is not connected to International Book Year.

■ A blind University of New Mexico student, Noel Runyan, has been named the top electrical engineering student in the United States in a competition sponsored by Eta Kappa Nu, the national electrical engineering honor society.

Mr. Runyan won the competition, which is sponsored by the Los Angeles alumni chapter of Eta Kappa Nu and which had more than 200 entries, with a paper and open house display concerning his inventions designed to assist blind people to use electronic equipment. These include a device to convert the reading of a digital voltmeter into braille, a device to convert light into varying sounds, and a third indicating by sound which holes of an IBM card have been punched out.

■ Services for the Blind of the Tenessee Department of Public Welfare has opened a materials resource center in the 1720 West End Office Building, Nashville.

The center, which is under the direction of Douglas Rambo, is primarily for rehabilitation teachers, adult basic education teachers, and volunteers. It includes machines, materials, and other aids and appliances which can be borrowed for demonstration purposes.

Exhibits to inform the general public about services for the blind are an additional feature of the center.

■ The U.S. Social and Rehabilitation Service is in the process of setting up a system of Rehabilitation Engineering Centers in which teams of engineers and doctors will work on projects such as muscle substitution, devices to stimulate arm and leg muscles, internal joint replacement, and sensory aids for the blind and deaf.

The first two centers are located at Rancho Los Amigos Hospital, affiliated with the University of Southern California, Los Angeles, and Moss Rehabilitation Hospital, affiliated with Temple University and Drexel Institute, Philadelphia. Two or three additional centers may be established by the end of the year. The cost for the first year's funding is estimated at $1.4 million.

■ Two magazines, *Better Homes and Gardens* and the *Journal of Rehabilitation,* are now available in braille and may be ordered through the regional libraries. Both are direct circulation magazines, that is, readers receive them directly from the producer and the copies may be kept. They are free.

■ A national study of hearing disabilities is being conducted by the Retired Professional Action group which has been funded under Public Citizen, Inc., a public interest organization directed by Ralph Nader.

In connection with the study, which is particularly concerned with the efficacy of hearing aids, hard-of-hearing persons are invited to participate by filling out a questionnaire which can be obtained by writing Hearing Disability Study, Retired Professional Action Group, 2000 P Street, N.W., Suite 711, Washington, D.C. 20036.

■ "Blue vision" may explain why some children are slow learners, suggests a study recently released by the Texas Research Institute of Mental Services, Houston. In a study conducted in a Houston private school, about 11 percent of the 500 pupils were discovered to have a mild color deficiency that makes it difficult for them to see the color blue.

Considering the number of school materials that are blue—from the guidelines on work paper to the violet type on tests to the blue-green blackboard used with yellow chalk—discovery of the extent of the deficiency, which had previously been regarded as rare, may point to some changes in familiar school materials.

■ Boys' Town is planning a $30 million institute for speech and hearing disorders. It will have two facilities, a family-type unit at Boys' Town, Neb., and a diagnostic and surgical-medical rehabilitation center at Creighton University in Omaha.

In announcing the plans, Archbishop Daniel E. Sheehan said that while children's disorders such as mental retardation, blindness, and crippling receive considerable financial support from national organizations, "up to now there has been no sponsorship of the study and treatment of hearing and speech disorders."

■ A laser stick which emits a loud sonic signal in the event of an impediment in a blind person's path at wrist height or above has been developed by the Research Institute of the Swedish National Defense.

The device, which is in the prototype stage, was commissioned by the Swedish Institute for the Handicapped and initially financed by the Swedish Board for Technical Development.

■ TRIC—Therapeutic Recreation Information Center—located in the Teachers College Columbia University Program in Leisure Education, is accepting requests for information.

TRIC, a literature and document storage and retrieval center for the field of therapeutic recreation service, includes data consisting of published and unpublished materials derived from a search of the literature from 1965 to 1970. Updating is continuing.

For more information, write Fred W. Martin, coordinator, TRIC—Therapeutic Information Center, Box 59, Teachers College, Columbia University, New York, N.Y. 10027.

Coming Events

October 1-6 Fifth International Congress on Mental Retardation, Montreal.

October 1-7 Employ the Handicapped Week.

October 2-4 American Foundation for the Blind, Regional Meeting on Attitudes Toward Blindness, Chicago.

October 4-6 New York State Federation of Workers for the Blind, Annual Conference, New York City.

October 11-13 American Foundation for the Blind, Regional Meeting on Attitudes Toward Blindness, Denver.

October 14-17 Audio Engineering Society, New York City.

October 14-19 American Academy of Pediatrics, 41st Annual Meeting, New York City.

October 15-18 American Association of Homes for the Aging, 11th Annual Meeting and Conference, Kansas City, Missouri.

October 15-20 American Nursing Home Association, Atlanta.

October 15-21 National Rehabilitation Training Institute, Miami Beach.

October 19 Mississippi Association of Workers for the Blind, Annual Meeting, Jackson.

October 22-25 American Public Welfare Association, Western Regional Conference, Phoenix.

October 22-28 American Occupational Therapy Association, Los Angeles.

October 26 American Foundation for the Blind, Foundation Day, New York City.

November 1-3 American Association of Workers for the Blind, Middle Atlantic Regional Conference, Washington, D.C.

November 3-4 Audio-Tutorial Congress, Fourth Annual Conference, Columbia, South Carolina.

November 8-13 National Association for the Education of Young Children, Atlanta.

November 12-15 Public Relations Society of America, 25th National Conference, Detroit.

November 13-17 American Public Health Association, Annual Meeting, Atlantic City, New Jersey.

November 15-18 National Easter Seal Society for Crippled Children and Adults, Annual Convention, Chicago.

November 16-17 National Council for Homemaker-Home Health Aide Services, Regional Meeting, San Francisco.

November 16-22 Adult Education Association, Minneapolis.

December 1-2 "The Therapeutic Community in Geriatric Care," a workshop conducted by nursing home consultants (Lawrence Lazurus, M.D., Sylvia Schmidt, A.C.S.W., Andrea Lazurus, R.N., Harriet Turner, A.C.S.W., and Margaret Smith, R.N.), San Francisco.

December 11-19 Council for Exceptional Children, Career Education Conference, New Orleans.

December 14-19 American Academy of Optometry, Annual Meeting, New York City.

December 17-20 Gerontological Society, 25th Annual Scientific Meeting (in conjunction with the American Geriatrics Society), San Juan, Puerto Rico.

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January 17-20 American Optometric Association, National Optometric Conference Week, San Antonio.

January 28-February 3 American Library Association, Midwinter Meeting, Washington, D.C.

April 22-28 Council for Exceptional Children, 51st Annual International Convention, Dallas.

May 7-10 National Braille Association, National Conference, San Francisco.

May 27-30 Medical Library Association, Kansas City, Missouri.

May 27-31 National Conference on Social Welfare, 100th Annual Forum, Atlantic City, New Jersey.

May 28-31 American Orthopsychiatric Association, 50th Annual Meeting, New York City.

June 10-14 Special Libraries Association, Pittsburgh.

June 15-18 American Congress of Optometrists, St. Louis.



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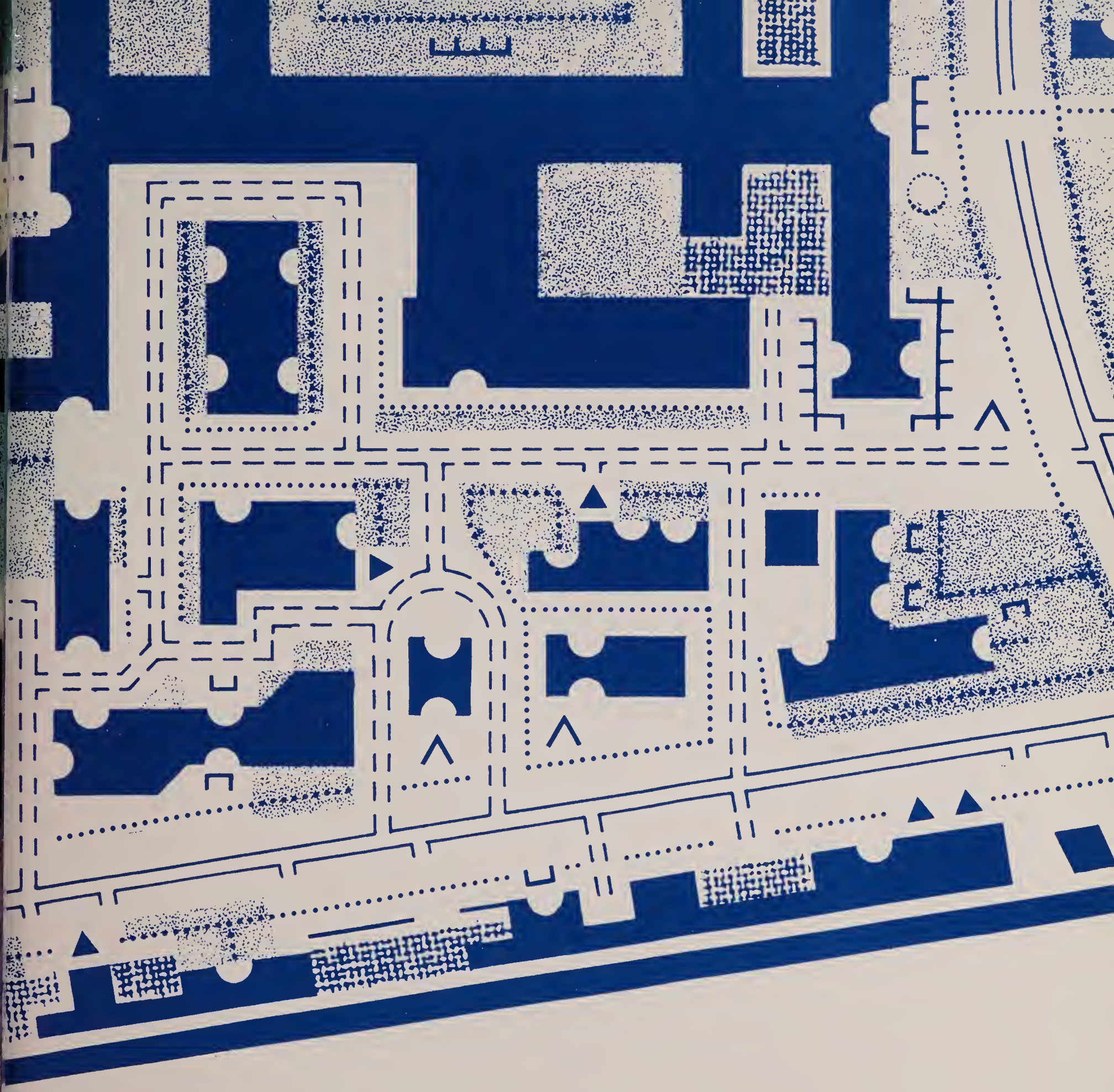
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Mannerisms in the Congenitally Blind Child

JOHN J. KNIGHT, M.S.

Mr. Knight is at present a candidate for a doctoral degree in instructional systems technology (with emphasis on instructional program development for handicapped children) at Indiana University, Bloomington.

From the instant of birth all infants, both sighted and blind, are subject to tension. Sucking and crying, visual, auditory, tactile and kinesthetic stimulation, and non-instrumental gross motor activities are the newborn infant's primary behaviors for coping with tension. He kicks, wiggles, and aimlessly waves his arms as he attempts to reduce the tension created by his need for physical activity. His eyes and ears devour the strange kaleidoscope of colors and sounds that surround him, and as he does so the tensions created by a need for sensory stimulation are reduced. When he is hungry, uncomfortable, or seeks love and security, he cries for a parent to feed him, fondle him, and give him the tension-reducing tactile and kinesthetic sensations which mean security. In fact, one of the general purposes of all behavior during infancy, and adulthood, is the reduction of tension.[17]

Learned Instrumental Behavior

☐ By the age of three months the sighted infant begins to abandon non-instrumental gross motor activities, and begins to acquire learned instrumental behaviors, such as reaching with his arms, which will enable him to effectively reduce many of his tensions by manipulating his environment. By five months he is capable of reaching out to an object, visually guiding his hand toward it, grasping the object, and pulling it back toward himself.[3, 18, 20] He plays with his hands, touching them together in midline fingering all through the third, fourth, and fifth months.[20] All of these activities strengthen the arms, improve their coordination, refine their reaching and grasping skills, and prepare them for their role in crawling.

Reaching and crawling

Around the tenth month the child gains sufficient control of his legs and begins to crawl.[10, 13] He is motivated to crawl after interesting objects that his vision discovers.[8] Using his new reaching and crawling skills, he will spend much of his time during the first years of his life in exploration, examining and testing his environment. As he does so he develops instrumental behaviors which will enable him to cope with the many problems he will encounter in his environment and society, and through effective coping, to reduce tension.

Regression

☐ What does a child do when his most recently learned behaviors do not work, when they are weak or ineffective and do not enable him to cope with problems successfully and to reduce tension? He usually regresses to a successful behavior that he mastered during an earlier period of childhood.[1, 2, 9, 11] At this point it is important to recognize that tension resulting from a stressful situation can be discharged through a primitive motor act.[7] It is entirely conceivable that a child six or eight years old would return to the aimless non-instrumental gross motor activities of infancy (which were successful as original coping behaviors) if he has no instrumental behaviors in his repertoire which are strong enough to cope with his problems effectively.

The critical periods for mastery

If a child is going to develop an instrumental behavior to its fullest potential, the behavior should be mastered during the critical period of its development. A behavior or set of behaviors grows rapidly during their critical period and will be oriented in almost any direction society and the individual guide them. However, once the critical period is passed, behaviors become somewhat rigid and resistant to change and further development.[2] It is obvious that if a child is going to attain optimal development for any aspect of his physical-perceptual-conceptual skills, that development must occur during its critical phase, and the child must be given adequate opportunities and stimuli.[3]

The Effect of Blindness

☐ What happens if some of the opportunities or stimuli necessary for optimal development are not present during a critical phase of development? What if the child is blind and there is no visual stimulus during infancy and early childhood? How will it affect the acquisition of essential reaching, grasping, and crawling skills which are so necessary for the child if he is going to cope with his environment effectively?

Differences in the third month

Until about the third month after birth the blind infant copes with tension in much the same manner as the sighted infant, by engaging in non-instrumental gross motor activities such as waving the arms and kicking the legs. By the third month the blind infant has the beginning of control over his arms, just as the sighted infant does. However, he does not have a visual stimulus on which to focus his attention and reaching activities. The result is that he does not reach out. There is nothing out there for him.[7,8] While the sighted infant is acquiring control over his arms and developing a basic set of instrumental behaviors (hitting, grabbing, reaching, hugging, pulling, etc.) which will enable him to manipulate his environment and reduce internal stress, the blind child continues to depend on the directionless non-instrumental gross motor activities of early infancy as coping behaviors. Rocking motions, kicking, slow waving, and fluttering and patting movements of the arms are employed to reduce his levels of tension.[16,19] If these behaviors persist past infancy they will soon be labelled "mannerisms."

Mannerisms

☐ The most commonly held hypothesis to explain mannerisms is that the blind child does not receive enough physical and sensory stimulation and engages in self-stimulatory behaviors which fill this deficit in physical-sensory stimulation.[5,14] It is very probable that it is the *tension* created by a physical-sensory stimulation deficit that drives the child to some type of coping behavior. If the child does not have instrumental behaviors that enable him to interact successfully with his environment in activities which contribute adequate physical-sensory stimulation, he will regress to his non-instrumental gross motor coping behaviors of infancy, his mannerisms. They will supply some sensory inputs, predominantly tactile and kinesthetic, that will at least partially reduce tension resulting from physical-sensory stimulation deficit.

Is the tension created by sensory deprivation the only situation which may cause mannerisms? How will the blind child react to tensions created by other situations such as insecurity, frustration, anxiety, or excitement?

Mothering

☐ The presence of the mother is very important to every infant. When the infant is not being held by his mother, he watches her for long periods of time,

assuring himself of her presence. The blind child does not have the visual reassurance that his mother is near, or that she even exists. For the blind infant, existence establishes itself through tactile contact. If his mother is not there to hold him, he may attempt to recreate the security and pleasure of her presence by stimulating the tactile and kinesthetic sensations of rocking and patting which to him are "mother."[6, 13] If the blind child does not develop effective instrumental behaviors as he grows older, such as reaching out for his mother and later actively seeking her by crawling, he may rely on his non-instrumental gross motor rocking behaviors from infancy to cope with tension caused by fears and the need for love and security. With time and repeated exercise these behaviors become more refined, situationally habitual, and may be generalized to any situation in which the child has a need for security. These non-instrumental behaviors from infancy are now labelled "mannerisms."

Coping behaviors

Every person must learn to cope with frustration and anger. Unable to rationalize anger away, the young child must vent his fury physically. A sighted child of 13 months or older can visually locate an object which will be the target of his anger.[7] The blind child, however, has no such targets until he is almost three years old. His concepts of objects, of things "out there" beyond his reach, are very unstable. Things exist when they touch him, and for some blind children more than 10 months old, when a sound comes from them.[7] But if he can not monitor an object's presence with his sense of touch or hearing, the object does not have permanence. Like a ghost it materializes from nothing for him to touch, and once it leaves his touch it dissolves back into the dark void of nothingness. He does not know if it is still there once he breaks contact with it. When confronted, therefore, with a situation that frustrates his goals, the blind child may explode into a rage which has no target because for him there is nothing at which to aim his anger. Instead of attacking some object to vent his frustration, he violently flails his arms and legs about, burning up energy.[7]

The older child

By the time a blind child is three years old, coping with frustration by non-instrumental gross motor discharge may be firmly established. As he grows older and becomes more socialized, the ferocity of his coping behavior will become tempered and restrained, the behavior itself often being restricted to what society labels a mannerism, such as a rapid bobbing or head-rolling when he encounters frustration.

Lack of Defense

☐ The blind child's lack of vision makes defense a very difficult problem. Blindness severely hampers recognition of anger cues in another person, and also curtails effective flight.[4] Filled with anxiety and its resulting tension, the blind child may resort to the non-instrumental coping behaviors of infancy if he does not have a sufficiently solid base of instrumental behaviors which will enable him to cope with his problem. As he grows older his non-instrumental coping behaviors for anxiety resulting from potential aggression may be generalized to any anxiety-provoking situation. The non-instrumental behavior becomes more refined and rhythmic, while many times allowing instrumental behaviors to be carried out at the same time. Nevertheless the "mannerism" is still there, a slight rocking or head nodding, a regression to primitive motor activities in response to anxiety-produced tension.

Other tensions

Just as anger, frustration, and fear arouse tensions which must be reduced, states of excitement, joy, and intense curiosity also create tensions within a child which will motivate some type of expressive behavior to alleviate the tension. These behaviors can be productive, creative, and socially approved. However, if a child does not have the necessary skills and behaviors which enable him to manipulate his environment and express himself meaningfully, he may resort to inappropriate non-instrumental coping behaviors which were learned during early infancy. When a blind child is in this situation and displays non-instrumental behaviors which have little or no effect in controlling the environment, the behaviors are assumed to be endemic to the blind child and are labelled mannerisms.

Limits of Additional Stimulation

☐ Mannerisms, then, may be used by the blind child to cope with tensions created by any one of a variety of situations,[16,19] including the lack of physical and sensory stimulation. Because of this it is unwise to apply indiscriminately the most frequently suggested panacea for mannerisms: giving the child additional stimulation. Such additional stimulation may only aggravate his tension if its origin is insecurity, frustration, or excitement. Additional stimulation could cause an increase in insecurity, or frustration, or excitement which will result in a probable increase in the intensity, frequency, or duration of mannerisms in the child.

Adequate behaviors needed

It is impossible to look inside the blind child's mind each time he engages in mannerisms and determine what the causal factors are. How, then, does one help reduce mannerisms in the blind child? The solution is to insure that the blind child has every opportunity to learn adequate instrumental coping behaviors during the critical phases of development for each of these behaviors. Then the child will not have to return to mannerisms, the relics of early infancy, to reduce tension and restore internal equilibrium.

Some of the basic instrumental coping behaviors that the blind child must learn are the control of his arms, hands, and legs for reaching and crawling. Control of his arms and hands will enable him to secure and explore objects, to employ more effective attack and defense actions, to express excitement through clapping and other socially acceptable activities, and to crawl when his legs have enough strength and coordination to perform their role.

The Importance of Crawling

☐ Many blind children never do learn to crawl.[15] Weak reaching skills and poor control of the arms prevent the coordination and movement patterns necessary for crawling. The blind child remains immobile until a much later time when he begins to walk, a situation which is definitely detrimental to his optimal development. Crawling amplifies the effectiveness of his arms and hands, taking him out into his environment where he will handle objects and explore, rather than waiting for the environment to be brought to him. The longer the blind child remains immobile, the greater will be his deprivation of vital learning experiences achieved through encounters with his environment. Selma Fraiberg and David A. Freedman performed intensive investigations into the development of the congenitally blind child, and some of their conclusions concerning the role of crawling are: "The blind child is much more dependent on locomotion than a sighted child to make crucial distinctions between self and

outer world, and to construct a world of objects . . ." and ". . . failure to achieve locomotion within a critical period of time may be one of the factors that brings about developmental arrest or maintenance of primitive behaviors, mannerisms, to cope with stress because the child's unfamiliarity with his environment or himself impedes his development of more advanced techniques of behavior-coping."[8]

Special help

The blind child should receive special help during his first two years of life, otherwise some basic instrumental coping behaviors, especially his reaching and crawling skills, may not develop to their fullest potential. The efforts to insure that blind children have mastered basic instrumental coping behaviors are important, not just to reduce mannerisms, but also to enable blind children to have more success in subsequent behaviors that are based on reaching, mobility, and other basic instrumental behaviors.

Summary

☐ In summary: (1) Mannerisms are behaviors that the blind child uses to cope with tensions created by situations of frustration, fear, excitement, stimulation deficit, physical activity deprivation, insecurity, etc. (2) The blind child resorts to mannerisms, which are non-instrumental gross motor behaviors learned during early infancy, when he does not have a set of strong instrumental coping behaviors. (3) The blind child's lack of vision impedes the development of essential instrumental behaviors that are learned during infancy, such as reaching and crawling. (4) The blind infant must be given assistance which will enable him to develop each of his instrumental behaviors more completely, especially during the critical period of development for each behavior.

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To Speed That Mail

HAROLD ROWLEY
Battle Creek, Michigan

One hears much talk about the turtle pace at which Free Matter for the Blind creeps across the country. Postal workers point out that part-time workers often sort the mail and may not be familiar with the free mailing privileges now enjoyed by the blind. They'll see these words, "Free Matter for the Blind," and think, "What goes here?"

Chances are they will lay the parcel aside because of the press of oncoming mail. Sometime later when they have more time, they consult the various guidebooks and find that the blind do indeed enjoy free mailing privileges, and off goes the questionable package.

But blind mailers can prevent such delays by showing the part-time or new postal clerk exactly where the privilege is spelled out. On all letters and parcels bound for destinations within the United States and its possessions, the sender should add the following words below the "Free Matter" line: "Postal Manual, Part 138." On all mail bound for foreign destinations, the mailer should add, "Table C, International Rates."

This isn't required by law, but it helps you and the post office. I know it works; my free braille mail buzzes from Michigan to Florida in two days.

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Adult Education Classes for Blind and Visually Handicapped Prison Inmates

DOUGLAS RAMBO

Mr. Rambo, who was an adult basic education teacher with the Tennessee Department of Correction at the time of his involvement with the prison program described in this paper, is now an orientation and mobility specialist with the Tennessee Services for the Blind and a consultant for adult basic education classes. He works out of the agency's new materials resource center in Nashville.

On July 3, 1970, a class for three visually handicapped and three blind inmates was begun at the Main Tennessee State Penitentiary in Nashville. The ages of these six men ranged from 27 to 58 years. The Tennessee State Department of Education allotted $600 from its Title III (Elementary and Secondary Education Act) funds to begin the program. In addition to these initial funds the following items were donated to the program: a Perkins brailler by an anonymous donor; the weekly large print edition of the *New York Times* by the Downtown Nashville Metropolitan Public Library; the monthly large print edition of the *Readers Digest* and large print novels and reference books by the prison library; a Dazor magnifier by the Lions Club of Fayetteville, Tennessee; a General Electric cassette recorder, a talking book machine, and talking books by the Tennessee Regional Library for the Blind and Physically Handicapped; three Smith Corona large print typewriters and two Sony tape recorders on loan from the Metropolitan Nashville Board of Education; and six braillers by the George Peabody College.

Classes for the Visually Handicapped

☐ The visually handicapped men were immediately started on the large print program. A diagnostic arithmetic and reading test was administered in large print to determine the grade level of each inmate. Two of them began learning addition using the first volume of the manual *Refresher Arithmetic*, prepared by the American Printing House for the Blind (APH). For additional practice they used the large print edition of *Systems for Success* (originally published by the Fallett Corp.). The computation of these arithmetic problems was done on lined, buff paper, as recommended by APH, using a black felt-tipped pen. The other inmate began learning the multiplication tables using large flash cards prepared for him by the teacher.

Reading

One visually handicapped inmate who had just begun to learn initial consonant and vowel sounds, was assigned Book One of the large print edition of *Systems for Success* before being placed in a regular Readers Digest Skill Builder course. Another inmate read well enough to be placed in Readers Digest Skill Builder, Book Two, Level Two. This man was instructed to master the key words at the beginning of the story before reading it once on his own. The comprehension test at the end of the story was then administered by the teacher to be sure the story had been read and understood. The third inmate was reading on a sixth grade level and was allowed to begin in Book Two, Level Six of the Readers Digest Skill Builder series. In addition to this primer, he was also reading the large print editions of the *Readers Digest* and the *New York Times*.

Writing

All three visually handicapped inmates learned to write both the block and script letter of the alphabet on lined buff paper with a black felt-tipped pen. The teacher explained to them the proper form of a friendly letter and the inmates wrote to a relative or friend from their hometown for practice. From this exer-

cise, the teacher pointed out words that were misspelled and prepared specific spelling tests for each inmate. Since the inmates attended school only two days a week, the assigned spelling lists were limited to ten words. Each word was first divided into syllables by the teacher and then used in a declarative sentence. Later on during the course, interrogative, imperative, and exclamatory sentences were used.

Classes for the Blind

☐ The three blind inmates were given wooden square, round, and triangular blocks to use as models in learning the proper way to form the letters of the alphabet in block print. After the inmates had learned how to form each letter, they were shown how to make their letters with a black felt-tipped pen, using a stiff, pre-cut template of cardboard with varying widths of lines, from large wide lines to the small narrow lines, over a blank sheet of paper clipped underneath the template.

Braille

For the blind inmates to begin learning braille, a six-holed muffin pan was used to represent the braille cell. Each inmate was given a tennis ball and, after mastering the location of the six positions by placing the tennis ball in all six holes as the teacher would count from one to six, the inmates were instructed to place the tennis ball in the number one position and then to place their right hand over the entire muffin pan surface to learn the configuration of the letter "A." The muffin pan and tennis balls were used to teach all of the letters of the braille alphabet to the blind inmates. This process of position and letter was then transferred to the Perkins brailler. For practice, flash cards were prepared by the teacher, with the dots of the braille cell being made with drops of glue. On the opposite side of the card the word was written in large print with a black felt-tipped pen.

Abacus

The blind inmates were taught arithmetic with the abacus. After learning to count on the abacus, the men were given first one, and then two and three place numbers to add. This was followed by subtraction. The use of the abacus was at first a very slow and cumbersome task for these men, but practice increased their skill and speed.

Orientation and mobility

All of the men enrolled in the visually handicapped and blind class were taught orientation and mobility skills. They were first oriented to the classroom and then were taught how to trail so that they could leave and return to the classroom independently during breaks. All of the men were taught the sighted guide techniques in going up and down steps, through swinging and regular doorways, and traveling on the outside of the building and as well as on the inside. Long canes were provided by the Downtown Nashville Lions Club, but since these canes were not cut for each blind person's height, they were only used to identify the bearer as being blind within the inmate population of the prison. Everyday living skills, such as counting money, eating procedures, telling time with a raised dot watch or clock face, and seating a blind person were taught. By the end of August, two more visually handicapped inmates had joined the class. By the middle of September, the total had risen to 15 men and the teacher asked that full-time teaching of the visually handicapped and blind inmates be provided. This would allow three men at a time to be taught each day of the week.

Increased Services

☐ In October the proposal was accepted by the Department of Corrections to allow three men at a time to attend two half-days a week, with those attending on Friday to stay all day. This gave equal class time to all the men enrolled in the class for the visually handicapped and blind. In the job description of the full-time teacher, the fact was mentioned that he would be formally trained in an institution for teaching adult education classes for visually handicapped and blind persons. His work would not only consist of the day-time program of teaching visually handicapped and blind inmates, but he would also be responsible for coordinating the large print typing, tape recording, and brailling of educational materials for blind persons in Tennessee by volunteer inmates with normal vision.

The Nashville Pirates

☐ The librarian at the Tennessee Library for the Blind and Physically Handicapped in Nashville outlined the work for the volunteer inmates who would be transcribing for teachers, parents, adult blind, and visually handicapped. It was deemed necessary that the inmates volunteering to transcribe books and educational materials be given a name so that those sending materials to be reproduced in one of the three media would be able to know who was doing the recording or transcribing for them. The teacher of the class for the visually handicapped and blind inmates created the name Nashville PIRATES, an acronym for Prison Inmates Recording And Transcribing Educational materials for the Sightless. Whenever any materials are recorded or transcribed by the Pirates, their calling card is affixed to it before it is sent from the prison.

First-year production

In the first year, the Pirates recorded 46 books on tape, produced four elementary school books in large print, and completed 27 assignments in braille, including college hand-outs, state employee handbooks, Medicare booklets, diabetic diets, and food stamp brochures and totaling more than 3,000 pages of braille.

Recidivism

☐ In its first year, the adult education class for visually handicapped and blind inmates enrolled 36 men. Two of the men, upon their release from prison, were employed by Mason Brandon Industries for the Blind in Nashville. Other inmates who have been released from prison have by and large done well. Only one person involved in the program has returned to prison for a felony.

The Pirate volunteer program and the classes for visually handicapped and blind inmates have worked hand in hand since October 1970. Some of the brailling and large print materials sent out under the name of the Pirates has been done by those who were also enrolled in the day-time adult education program. Five of the Pirates have been certified by the Library of Congress. Two other inmates in the Pirate program have applied for certification. Three of the Pirates have been released from prison recently and will continue to serve blind persons in their communities.

Student teacher

An interesting note about the program involves a blind student from George Peabody College in Nashville who did his field instruction in the prison. He taught braille to eight sighted inmates and coached the legally blind adult education students in learning grade two braille.

Projects

The Nashville Pirates have contributed to the community of Nashville by brailling the *Metro Moonbeam*, a newsletter put out by the Metro Nashville

Adult Education Office for use in their program for the visually handicapped and blind and have brailled the official program for the 1971 meeting of the Tennessee Chapter of the American Association of Workers for the Blind.

Honors and Encouragement

☐ Several honors have been bestowed on the adult education program and the Pirates. These honors include 20 certificates of appreciation to individual Pirates from the Tennessee State Librarian and Archivist and certificates to the group from the Metropolitan Nashville Public School Board and the Tennessee Chapter of the AAWB. Another honor came when the teacher of the adult education class was presented with an award from Governor Winfield Dunn by Mrs. Tex Ritter. Both programs have also been cited in popular magazines, local newspapers, and educational journals. Such recognition from outside the prison has been very encouraging to the men involved in the Pirate program and the adult education class.

Precision in Scientific Writing

In a Miami address last month [June 1972], Dr. Martin M. Cummings, director of the National Library of Medicine, said that the English language is emerging as the universal language of scientific reports published in leading journals throughout the world. He stated that "if our language is fast becoming the standard language of science, we have a responsibility to learn how to speak and write English properly ourselves."

Dr. Cummings was critical of duplication and redundancy in published literature, and pleaded for "more attention to clarity and precision of expression" in medical writing. He said that one well-written account of research in one good journal is all that should be expected of a scientist, but, instead, the same work is repeated in several forms in different journals, as well as appearing in several abstract journals.

He said that the world is "doomed to drown in a sea of paper" unless new and more efficient publication methods are developed and that, if he were to select the highest priority for a rapid solution, he would suggest that we address ourselves first to competent writing. "The preparation of lucid, but brief, scientific reports could reduce the size and volume of literature significantly. Since bad writing is often a reflection of bad thinking, I believe there would be little loss of new knowledge if we imposed more critical standards for publication."

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Mobility Education for Multiply Handicapped Blind Children in Day Schools: What It Encompasses

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Current literature reveals to us that many approaches may be used when working with multiply handicapped blind children. Circumstances and conditions dictate various approaches and programs since there is no "typical" multiply handicapped blind child. Enrolled in our classes in Detroit are blind children with various combinations of physical, emotional, sensory, and mental handicaps. The following characteristics are common to many of the children: 1) All of them have a very limited capacity to learn and do not attain academic levels above the sixth grade. 2) None are able to profit satisfactorily from the regular program for visually handicapped children since it follows the school curriculum for non-handicapped students. 3) Posture and gait problems are common. 4) Many bear the scars of blindisms and mannerisms. 5) Some exhibit poorly developed social skills and show signs of immaturity. 6) Some are quite satisfied with only familiar activities and resist new experiences. 7) Some verbalize excessively, while others hesitate to communicate orally. 8) The aspiration level of some of the children is low and for some it is too high and not in keeping with their abilities. 9) Most of these children take three to four times longer to learn mobility skills than do normally functioning blind children. 10) All of these children present such diversified needs that only a program of evaluation and instruction which involves several disciplines can be truly effective.

Program Objectives

☐ The objectives of our program for the multiply handicapped blind child include provisions for the development of acceptable communication and language skills, basic academic skills, daily living skills, mobility skills, vocational evaluation, and prevocational training. The curriculum is flexible, with each child participating in segments of the program for which he is emotionally and physically ready. This flexibility in programming is made possible through year-round community involvement. The Michigan State Office of Services for the Blind, the Detroit League for the Handicapped, and the Rehabilitation Institute of Metropolitan Detroit provide direct services to multiply handicapped blind children in the Detroit Public Schools. These services include vocational counseling, social work services, vocational evaluation, pre-vocational training, recreation, and personal adjustment services. In fact, some of the pupils spend up to half of their weekly school time in one or more of these agencies.

Providing services

When planning for and developing a curriculum for multiply handicapped blind children, the area of orientation and mobility invariably comes up. Several recent articles (by McClennen,[2] McDade,[3] and Rodden[6]) emphasize the

Inclusion of orientation and mobility

Some of the material presented in this article reflects the work of Mrs. Wilma Spake Seelye, Classes for the Blind and Partially Seeing, Detroit Public Schools.

inclusion of mobility in programs for the multiply handicapped blind child, and earlier articles by Seelye and Thomas[7] and McDade show the feasibility of such training to this segment of the blind population. McDade further advocates the use of mobility proficiency as part of the evaluation criteria for the habilitation of multiply handicapped blind children, and Pumo[5] promotes the idea that good grooming, posture, mobility, and communication techniques receive special attention throughout the formative years of the blind child. These, Pumo states, are prerequisites for ultimate vocational adjustment. However, in some of the best programs serving visually handicapped children, the peripatologist does not give individual mobility lessons to lower elementary and young multiply handicapped blind children on a regular basis. Group lessons are given on a weekly basis covering gross motor movements, body and sensory awareness, and the basics of orientation. The utilization and reinforcement of these weekly lessons can be enhanced by the resource teacher. His understanding of the general mobility plan and of his role in the implementation of the mobility plan can foster an ideal sequential program for the child. In this article, we give a brief sketch of the phases of mobility instruction for the multiply handicapped blind child and offer suggestions for resource teachers and auxiliary school personnel in helping to implement a mobility plan for such a child.

Group lessons

The Use of Travel Situations

☐ The day-school multiply handicapped blind child is placed in travel situations which, in many instances, parallel the travel challenges of all day-school visually handicapped students. Even when small, he must learn appropriate techniques and develop mobility skills in order to navigate within the school—locating the braille room, toilet facilities, lunch room, gym, crafts room, and music room. Being able to exit via the fire route and being able to locate the air raid shelter area within the building are additional routes to be mastered. When a multiply handicapped child has developed adequate outdoor travel skills and can exercise sound judgment under varying travel situations, he is required to travel to and from school independently and to selected community agencies when his habilitation plan calls for such services. For travel of this nature the child must recall the trip in its proper sequence, remember pertinent landmarks, and apply this information to the situation at hand. He must simultaneously be using appropriate techniques to prevent injury and must be observing basic rules of safety. He must be sufficiently composed to deny or accept assistance while maintaining his orientation, and the student must know what procedures to follow if he gets lost or disoriented. To help prepare multiply handicapped blind children to cope with these kinds of mobility tasks, a mobility program consisting of six areas is used. These areas are not independent of each other, and pupils may receive concentrated instruction in two or more of them simultaneously.

Skills needed

Area I—Coordination and Postural Exercises. These exercises represent the foundation of our mobility program for multiply handicapped blind children. Efforts are made to orient the child to his own body parts, to teach him the many ways the body is able to move, and to help him coordinate his body movements. Besides improving gait, posture, and coordination, these exercises do much to improve directionality, laterality, sense of turn, balance, and

Coordination and posture

concentration—all of which are necessary for good independent mobility. These exercises also aid the child in developing stronger body parts and in developing a greater tolerance for mobility activities and work. An excellent manual which lists and offers diagrams for suitable exercises has been compiled by the President's Council on Youth Fitness entitled, *Physical Fitness, Suggested Elements of a School-Centered Program, Part I and II.*[4] Siegel's book, *Posture in the Blind*, gives good background information regarding posture, gait, and general body carriage among the blind population, but offers little in the way of specific exercises to foster good posture, gait, and body carriage.[8]

Sensory awareness

Area II—Sensory Awareness. With the absence of good vision a visually handicapped child must rely on his other senses to give him pertinent information which will provide him with a greater understanding of his environment. Emphasis is placed on learning what information can be received through the commonly used sensory perceptors—the eyes (for the child with residual vision), the ears, hands, skin, feet, and nose. It must be realized that the child's sensory perceptors may be physically stimulated by sounds, sunlight, odors, etc., but the child can be unaware of what is happening. Therefore, he must be taught the various kinds of information that can be received by his sensory perceptors and how this information may be used to aid his orientation and mobility. In any situation, the sensory perceptors may receive relevant and irrelevant clues, and the child has to learn to select and use the most meaningful information received.

Indoor Travel

☐ *Area III—Indoor Orientation and Travel Skill Building.* This area of instruction stresses the development of verbal and concrete concepts, and mastery of non-cane skills which will allow safe and independent travel within the school. These skills, when related to a philosophy of independence and mastered by the child, will help him develop a high degree of independence and will add to his physical and mental development. Right, left, to your right, right turn, along, upstairs, downstairs, landing, flight of stairs, walking down the hall, intersecting halls, basement, first floor, second floor, above, below, around the corner, are some of the terms which must be understood before the child can execute instructions for getting around. The child is oriented to the building and learns to locate various building exits and specific rooms which he uses. Knowing how to get to these places independently assures his full school participation and eliminates special help and guide arrangements.

Concept development

Area IV—Outdoor Mobility Concept Development and Cane Technique Development. Outdoor mobility is started only when the child has satisfactorily mastered the indoor travel methods and techniques. Streets which make up the school block and streets located in the school neighborhood must be learned. From this foundation the child builds a mental index of various streets and their relationship to each other. Helping the child to develop an understanding of the neighborhood layout and the almost countless verbal phrase and concepts can best be accomplished if the student is motivated to learn to travel. Verbal statements, such as the ones listed above, must be accurately interpreted by the child before he begins to understand his environment and is able to execute specific instructions.

Long cane training

Learning the long cane methods and techniques requires the student to apply

most of the mobility skills previously learned. The child must coordinate his wrist movements with his gait and style of walking, maintain an arc of adequate width and height while keeping the cane hand centered, be aware of and able to use the information he receives through the cane, and be able to receive and use information being received through his other sensory perceptors. Most importantly, the pupils must have some understanding of the overall idea of the organized and systematic methods of long cane travel. Understanding that the effective use of the long cane indicates to others that he is an independent visually handicapped person is essential. Therefore, the student must develop confidence in himself and proficiency in the long cane methods.

Outdoor Mobility

☐ *Area V—Outdoor Mobility in the School and Home Neighborhoods.* This area of instruction focuses on the application of the long cane methods to leave the school (or home) and travel to a given destination in the neighborhood. In real and actual situations the child experiences some of the unpleasant aspects of independent travel—encountering stray animals, getting lost or disoriented, stumbling on broken or uneven sidewalks, bumping into obstacles due to inadequate cane techniques, walking on muddy shorelines, being out in inclement weather, and traveling on snow, ice, and water-covered sidewalks. However, the student also experiences the joys of crossing streets, exploring a mailbox, or a place of business. He may also derive pleasure from meeting people and gaining new friends. As the student benefits from his mobility experiences, he learns to stay composed under most of the stressful situations which sometimes accompany independent mobility, and assumes greater responsibility for his own safety. He learns to evaluate his own travel skills and limitations, and most importantly, the child develops positive or negative attitude regarding his independence or lack of it. Guidance and support to the student during this crucial phase of mobility instruction is pertinent.

Exposure to a wide variety of situations

For the child who does not advance beyond this level of instruction and who will do most of his city-wide traveling with the assistance of a guide, exposure to a variety of travel situations is necessary if he and his guide are to move about with ease. If going on a trip the student should still want to know certain basics—the location of the destination, the section of the city where located, the bus or car route to be taken, and the approximate amount of time to make the trip. He should know certain weather information for the day of the trip so he can dress appropriately. When making a trip via bus, the student should know something about the bus schedule, location of bus stops, how to board and exit from the bus, and how to stand and hold on to the hand rail while the bus is moving. If lunch is to be eaten in a diner or sandwich shop, the student should know how to seat himself, ask pertinent questions about items on the menu, how to order from the waitress, and how to take care of his bill. Use of revolving doors, elevators, and escalators are other travel situations which the student should be able to handle with minimal assistance from his guide. Therefore, the student who does not develop the necessary mobility skills for more advanced outdoor travel is taught various ways to move effectively in the environment with a guide. The idea that the guide "guides" and does not take care of all travel problems is stressed.

Travel in Crowded Areas

☐ *Area VI—Outdoor Mobility in Small Business Areas and Public Transportation.* Small business areas with block after block of five-and-dime, department, and drug stores, repair shops, bakeries, and banks offer the student opportunities for new growth and development. The constant presence of people and sidewalks cluttered with poles, trash containers, parking meters, newspaper racks, shrubbery planters, bus benches, and shelters present new challenges to the multiply handicapped blind child. Perhaps for the first time the child's void environment takes form, and he begins to fill in massive areas of nothingness with a hardware store, bank, clinic, service station, bar, insurance office, real estate agency, bowling facility, or even a mod shop or the YMCA. Attention is not only focused on getting to a shop or store, but the student is shown how to make purchases. At the post office the student learns that stamps, postal cards, stamped envelopes, and money orders may be purchased. Information regarding aliens, wanted criminals, mailbox rentals, tax forms, and mailing privileges for the visually handicapped may be secured.

Public transportation

With so many families owning cars, many of our students have taken few bus rides and the system of public transportation is almost foreign to them. Therefore, the child must learn to look for and locate coach stops, and he must learn the buses which serve his home and school areas. He also learns about bus fares and schedules, travel concessions for the legally blind, and acceptable bus etiquette. The student learns the appropriate manner in which to board and exit from the bus, and is taught how to transfer from one bus to another. He is also taught to use the bus information service and learns to give the appropriate street information to the driver so that the driver will stop at the desired street. Efforts are always made to teach the child information and skills which are relevant to him and his personal goals.

Comparisons with normal blind children

It is apparent that the environment in which day-school multiply handicapped blind children live places demands upon them similar to all other students. His environment is dynamic and composed of a heterogeneous populace. He lives in an environment where teacher, parental, and community pressures affect him daily. He lives in a competitive environment where standards for behavior and achievement are set by all of his peers—handicapped and nonhandicapped. His daily environment covers miles and his adaptation to many settings is necessary. Therefore, the mobility needs, goals, activities, and experiences of the multiply handicapped blind child are similar to those of the normally functioning blind child. However, the multiply handicapped blind child accomplishes his travel goals at a much later age, his degree of independence usually differs, and, like some normally functioning blind children, his independent travel experiences may be minimal.

Suggestions for Resource Teachers

☐ Our experiences have taught us that a significant number of multiply handicapped blind children can learn to function independently in a variety of travel situations. (Of the 14 multiply handicapped blind children in the Detroit Public Schools braille classes aged 15-19 years, six (42 percent) of them travel independently to and from school, community agencies, recreational facilities, homes of friends and relatives, cafes, concerts, and various stores and business establishments. Multiply handicapped blind students have been participating in

school/community agency programs which necessitate independent travel since 1968.) The joint efforts of the peripatologist and resource teacher cannot be overemphasized since mobility experiences which will be beneficial to the child can be initiated by either. The following suggestions for resource teachers reflect some of the things done by the resource teachers for the visually handicapped in the Detroit Public Schools to assist the peripatologist in the mobility education program.

Physical conditioning

1. The resource teacher can help eliminate gait, posture, and coordination problems by having children do appropriate movements and exercises several times weekly. He can also encourage school administrators and gym teachers to provide separate physical education or include multiply handicapped blind students in regular physical conditioning groups.

Sensory awareness

2. The resource teacher can provide students with sensory experiences at school. Puzzles, weaving, and assembly-type activities which help children develop a sense of order and organization should be provided. Games and discussions which require students to draw conclusions and make decisions from clues and facts are also excellent activities. *The Curriculum Guide, Pre-Cane Mobility and Orientation Skills for the Blind,* published by the Michigan School for the Blind, offers other suggestions for resource and classroom teachers.[1]

Pre-cane techniques

3. The resource teacher can orient students to the school provided he knows the pre-cane techniques and is skilled in selecting routes and pointing out landmarks and clues. If there are various routes to a specific destination, several routes should be taught. Mobility workshops for teachers and institutional personnel will enable them to learn to teach these skills to children.

Creating travel opportunities

4. The resource teacher can and should create travel opportunities for students who have mastered routes within the building so that the student will be able to use his mobility skills at every available opportunity.

5. The resource teacher can periodically observe children as they travel indoors to insure that appropriate teachniques are being used.

Field Trips

☐ 6. Before going on field trips, the resource teacher can discuss with students the type of transportation to be used, route of travel, and the location of the destination.

7. The resource teacher can familiarize students with streets and businesses in the immediate school area.

8. The resource teacher can provide students with limited bus experiences by using public transportation to go on some field trips. This is easily done when schools are located in the city and are near bus lines. The small enrollment of classes for multiply handicapped blind children would allow a teacher with the assistance of another staff member or parent to manage a small number of children on a public vehicle.

9. The resource teacher can provide the child with trips to and experiences in drug stores, department stores, banks, theaters, and other business establishments—always pointing out the kinds of merchandise found and/or services rendered. Whether the student develops independence to a degree to live alone or if he remains in the home with his parents, these types of experiences will be beneficial to him in satisfying his own needs and desires.

10. The resource teacher can make available to students the tape recorder and mobility review tapes. Information regarding street relationships, directions, safety rules, bus information, etc. is stored on the tapes for independent review purposes.

Use of tapes

11. The resource teacher can provide students with in-school experiences which will foster the development of mature behavior.

12. The resource teacher can relate academic subject material to orientation and mobility. Most subject areas have content related to orientation and mobility, and the alert teacher can make the child aware of the use of these skills in mobility. For example, estimating and measuring distances indoors, telling time, timing trips, using calendars and schedules, learning about parallel and intersecting lines and streets, counting and organizing money are all arithmetic skills, but mastery of these skills would also be important for mobility independence.

Relating subject areas to O & M

13. The resource teacher can discuss various ways for the student to answer or refuse to answer questions relating to his disability.

14. The resource teacher can have pupils dramatize and act out ways in which help and treats by sighted persons can be tactfully refused.

Dramatization

15. The resource teacher can assist the child in eliminating mannerisms or other unacceptable habits which will attract negative attention to the child. He can encourage proper and neat dress acceptable for traveling in public.

☐ 16. The resource teacher can make special efforts to help students develop good communication skills with emphasis on oral expression and listening. An independent traveler in a city is constantly requesting and receiving information essential in making successful trips. The manner in which he expresses himself, listens, and interprets information directly affects his travel proficiency.

Communication Skills

17. The resource teacher can help reduce the pupil's travel anxiety by encouraging and reassuring the student who is fearful of independent travel situations and who has little confidence.

18. The resource teacher can help motivate the student who has little or no desire to travel.

19. The resource teacher can assist the child in developing a positive attitude toward mobility by pointing out his need for independent travel.

20. The resource teacher can convey an attitude of independence to the parents of his students. He can offer suggestions and activities which parents can provide to help their child grow, develop, and become independent.

Independence

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Mississippi's New Rehabilitation Center

The recently completed Addie McBryde Rehabilitation Center for the Blind, a four-story structure of approximately 44,000 square feet, is located on the grounds of the University Medical Center, Jackson, Mississippi. It provides blind and visually handicapped Mississippians with general medical evaluation; social and psychological services; training in personal management, prevocational skills, orientation and mobility, and communications; recreational and physical conditioning activities; and small business training. A four-lane eye clinic and a low vision aids center are located on the top floor. The Center provides a dormitory for 36 trainees.



The Blind Social Worker and the Client-Worker Relationship

LUCY DECHAINE

Mrs. Dechaine, formerly a family caseworker with Catholic Charities Family Service, Queens, New York, and with the Association for the Help of Retarded Children, New York City, and a volunteer teacher at the Greene Blind Unit, Walter E. Fernald State School for the Retarded, Waverley, Massachusetts is presently a social worker in the Information-Referral Service, Rhode Island Council of Community Services, Providence.

"You can't help me because you won't know what to do if I start throwing things around." "I'd rather be blind than retarded." "It doesn't matter if a person can't see as long as that person can talk and understand another person's problems."

My blindness has elicited these three very different reactions, as well as less dramatic responses, both verbal and nonverbal, from clients with whom I have done social casework. In every new inter-personal encounter, a blind person experiences some sort of reaction to his blindness; he can choose to ignore such reactions, to reject the person giving a negative response, or to work on the problem with the other person either subtly or openly. A meaningful relationship of any kind is impossible to form unless both the blind person and the sighted person realize that blindness is only one dimension in the total personality of the blind person.

Unalterable Attitudes

☐ Often, a blind person cannot alter negative reactions of casual acquaintances or even of co-workers whom he meets every day, either because of his own inability to deal candidly with blindness and its ramifications for daily functioning, or because of the defensiveness of sighted persons' recations. I do not mean to imply that all reactions are negative. Frequently, people are quite open-minded and able to accept a blind person as just another human being. In many instances, previous positive relationships with other blind people allow for the transference of positive attitudes to the blind person just met. But the transference can also be negative and the blind person must dispel the residue of negative experiences before he and the sighted person can begin to form their own one-to-one relationship.

Attitudes in the casework relationship

In many acquaintanceships, it is neither necessary nor desirable to deal with the reactions produced by blindness. In a casework relationship, however, where the quality of the relationship itself is vitally significant, I feel that the client's feelings about the caseworker's blindness must be explored whenever the worker perceives that these feelings are interfering with the casework process. This viewpoint does not seem to be shared universally by blind caseworkers, as evidenced by the dearth of literature on the subject and the vague replies of caseworkers interviewed by me, who had not dealt with the problem with their clients and stated that their blindness was not important in their client-worker relationships. No client can feel comfortable about referring to a caseworker's blindness unless the worker's method of handling himself shows self-acceptance.

Initiating the Discussion

☐ I do not advocate the caseworker's raising the topic of his blindness as an issue for discussion unless he has some indication of its relevance. The worker must be able to bring it up, however, when he feels that it is pertinent to the

caseworker relationship. For example, a schizophrenic girl, seen by me on an emergency basis during an acting-out episode, told another worker that she did not want me as her regular social worker because she had never met a blind person before and felt uncomfortable about it. In our next interview, I said that I realized how she felt and suggested we discuss her feelings about blindness and how my blindness might affect our work together.

Initial reactions

The reactions of clients to a worker's blindness are of the same general types as reactions of any group of people to any unusual condition, namely, denial, rejection, or acceptance. Denial seems to be the most common. Clients usually make no references whatever to the worker's blindness and act somewhat embarrassed when they are forced to respond to it, for example, by the need to read something, such as a letter from another agency. This type of reaction, however, seems to be a function of the worker's own attitude rather than of the client's readiness to deal with the problem. I have noticed a lessening of such reactions as I have become a more skilled caseworker. Denial seems more prevalent among persons who have introjected the social value of superficial pleasantness and denial of unpleasant social facts. A mother told her eight-year-old twins to be quiet when they asked why I could not see. She seemed surprised and somewhat taken aback when I replied to their questions that my eyes did not work properly because something was wrong with them.

Disbelief

Children tend to be more candid and to express how they really feel. My only experience of a client actually denying the fact of my blindness occurred when a brain-damaged adolescent declared that he did not believe me when I said that I could not read the page he had typed in class. He then asked how I could walk around the agency if I could not see where I was going. After thinking about my reply, he said he still was not sure that I was blind. In subsequent interviews, he seemed to acknowledge my being blind and was able to go beyond this to a discussion of his own problems.

Overt Rejection

☐ Rejection of a worker's blindness may be either overt or covert. I had not resolved the overt rejection of the schizophrenic girl, mentioned above, in our first discussion of her feelings, and the problem did not arise again for almost two months. She had another acting-out episode in which she released her pent-up fears that I would be unable to deal with her violent acting-out. In reality, she had not acted out violently for several years and her real fear was that I might repeat the content of our interviews to her family. Blindness is an obvious target for hostility that is caused by other factors, particularly if a client can perceive that the worker is vulnerable regarding his blindness. I feel that the caseworker must deal with overt rejection by acknowledging it, exploring its basis in reality, and discussing with the client whether his resistance to casework has other causes.

Avoidance of casework

Since blindness is only one dimension of the worker's personality, reactions to him as a whole human being can have a variety of other causes; further, clients frequently use other reasons to avoid casework contacts. Another schizophrenic client refused to continue with a worker because, she said, the worker was Oriental and could not understand the problems of an American woman. This reaction, like the reaction of my client, was focused on a characteristic of

the worker, but was more the result of the problems for which the client was in casework treatment.

Covert rejection

Rejection is more subtle and more difficult to deal with when it is covert. I do not know how many clients have discontinued casework because of a caseworker's blindness and have not given the worker or themselves an opportunity to deal with their feelings. After a very productive interview with an adolescent boy who was having an identity crisis, I spoke with his parents about the need for family therapy. The mother was able to tell me that her son felt uncomfortable about my blindness and was reluctant to keep his next appointment. I assured her that I would discuss this with him and that his feelings were related to the importance of physical perfection for adolescents.

Overprotection

☐ Another manifestation of clients' reactions to a social worker's blindness is their tendency toward overprotection. It is certainly true that a blind caseworker must ask a client's help when they go anywhere together or when something must be read. This need for mutual assistance can be used constructively for the fuller participation of the client in the casework relationship. For example, a cerebral palsied man was delighted to guide me across the street after our visit to a rehabilitation center. I used his helping me to support his very inadequate ego and to demonstrate to him that he need not always be the recipient of help.

Home visits

Overprotection frequently arises when a worker offers to make a home visit. Clients sometimes say that it will be too difficult for the worker or that they will drive him to their homes. It is important, I feel, for the blind social worker to avoid both over-dependence and pseudo-independence; it is also helpful to explain to clients how he travels alone. On a recent home visit, I had difficulty finding my way out of an unfamiliar and deserted subway station; I was genuinely thankful that I had made arrangements with the client to meet me outside the station, since the walk to his home from the subway was quite complicated.

Over-solicitousness

Some people tend to be over-solicitous toward anyone who, because of youth or physical handicap, might benefit from their attention. One such client pushed up the collar of my winter coat on a cold day to keep my neck warm. Another worker who saw the gesture interpreted it as related exclusively to my blindness. I interpreted it more as associated with the client's general maternal tendencies. The blind social worker must at all times differentiate between reactions to blindness and to other factors in order to respond appropriately. An elderly client told an agency worker that I was "a nice little girl," but that I could not do anything to help him. This man indeed did not need casework help, but my youth was not the reason.

Testing and Acceptance

☐ Acceptance by a client of a blind social worker is achievable, sometimes after a period of testing. A blind friend who works in foster care told me that children test her perception by running about her office and touching the things on her desk. Adults often test the worker too, like the man who broke my ashtray and waited until the end of the interview to tell me about it. He was quite surprised when I said that I realized what he had been doing. Testing is not unique to blind workers. Every client tests to see whether the worker is trustworthy and helpful before fully entering into a casework relationship.

Easy acceptance

With some clients, acceptance of a blind worker poses no problem at all. I rapidly engaged a retarded young man in a casework relationship without the factor of my blindness arising. During an interview in which he ventilated feelings about his physically handicapped co-workers and about himself as a retarded but not physically handicapped person, I asked how he felt about my being blind. He replied that it made no difference, because I was able to talk with him and understand his problems. With him, as with the brain-damaged boy mentioned earlier, there was so much absorption in his own life situation that he had no energy for anything not directly related to him and his needs.

Handicapped clients

Special problems are presented by clients who are themselves handicapped, since they can react to a worker's blindness by identification, over-identification, or rejection of the worker. A schizophrenic young woman with whom I worked intensively began walking near the walls in corridors in seeming imitation of me. She also complained of visual difficulties and fear of traveling alone. Without explicit reference to her identification with my blindness, we were able to deal with these symptoms. Unhealthy over-identification is likely to occur when an individual identifies totally with the worker, probably because, for the first time in his life, he finds himself in a situation where some sort of realistic identification is possible. A mildly retarded man whose major problem was acceptance of his retardation found working with me a traumatic experience, because he continually compared himself, a retarded clerk, with me, a blind social worker. He repeatedly asserted that he would rather be blind than retarded.

Use of Worker's Handicap

☐ A caseworker's blindness, like other personal characteristics, can sometimes be used constructively in treatment. For example, I pointed out my inability to drive when a retarded young man came to me with his frustration about not being able to obtain a driver's license. I was able to help him alleviate some of his depression by showing him that everyone has certain inadequacies. Similarly, when he described how his aunt refuses to speak to him, I pointed out that she would act the same way toward me because I too am different and not physically perfect.

Personal examples

I worked with a group of parents of retarded children on the importance of ascribing problems to their actual causes without attributing all family difficulties to the presence of their retarded children. To illustrate my point, I mentioned that my various areas of incompetence, such as sewing and music, were due to personality factors and not to my blindness. It is meaningful to clients to use oneself as an example in this manner only when the reference is thoroughly appropriate and when the caseworker is comfortable with this exposure of himself. I also feel that it can be detrimental to the genuineness of the relationship if the worker fails to draw himself into the casework process when, as in the above instances, frank discussion of oneself is relevant.

Summary

☐ Blindness itself is not a handicap in casework. It becomes a handicap when the social worker is uncomfortable about it and unable to deal with whatever problems, real or felt by clients, it produces. The blind caseworker must be constantly attuned to his environment. For example, when I heard the footsteps of a psychotic client turning away from my office instead of turning into it, I

immediately called her back to the correct doorway. A blind social worker's attitude towards himself is the key factor in his ability to use himself effectively in a casework relationship. This is not the total answer, of course, since clients' deep feelings and strong defenses sometimes make handling of the problem very difficult. Nor is it a final answer, since the relevance of a social worker's blindness to casework practice is a question which must be dealt with again and again, hopefully with progressively greater insight by every blind social worker.

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I certify that the statements made by me above are correct and complete.
(Signed) Patricia S. Smith, Managing Editor

The Optiscope Enlarger:
A Report of Initial Field Trials

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During the past 20 years a virtual revolution in visual rehabilitation has taken place. Prior to 1950, a person with reduced vision seeking help had only medicine or surgery upon which to depend. When these methods were ineffectual or contra-indicated, he was told nothing could be done for him. With the development of optical aids, restoration and rehabilitation of low vision has become possible for many.

The basic need in most low vision cases is to produce a larger retinal image. This is done through the use of hand magnifiers and microscopic or telescopic lenses. Due to the limitations of these devices, other means of producing a magnified image have been developed. One of the most recent of these is the Optiscope Enlarger. This is a report of an investigation made to determine its effectivity and usefulness for low-vision patients.

The Optiscope

☐ The Optiscope Enlarger is an opaque projection device which has variable illumination and adjustable focus. It is 16 inches wide, 20 inches long, and 18 inches high. It weighs 14 pounds and operates on standard 110/120-volt electrical current.

A material area of 2½ and 3½ inches is retro-projected with a fixed magnification of four times on a translucent screen measuring 10 by 14 inches. The frame of the screen reduces the viewing area to 8 3/4 by 13½ inches.

In use, the spring-loaded projector-screen portion is raised and the material to be viewed is placed on the base table. This table has lateral and vertical movement so that the material may be moved to change the area viewed. Focus and illumination are both adjustable by conveniently placed knobs at the front of the device.

Subjects

The subjects used in this investigation were 30 consecutive patients under low vision care. No restriction was placed on the age, sex, or causative factor so that a random cross-section of patients would be obtained.

Testing

☐ These subjects were tested in the following manner. Measurement of unaided and corrected near acuity was made. The chart used was the "Near Reading Card for Partially Blind" (arranged by William Feinbloom, Ph.D., for Designs for Vision, Inc.). Record was made in terms of point size achieved and distance at which this was seen. Next, some general material was selected according to the age and expressed wishes of the subject (*Newsweek* magazine, *The New York Times*, typewritten material, or a book, *Animal Dictionary*, published by Golden Press). One of these was presented to the subject for reading first without and then with whatever optical aid the person normally used (including spectacles). Notation was made of the distance required if the material could be read. If impossible to do, this was also noted.

Four tests

The four tests were then repeated with the chart and the selected material

	Near Vision (Chart)				Selected Materials			
	Hand-Held		Optiscope		Hand-Held		Optiscope	
S	Without Rx	With Dist. Rx	Without Rx	With Dist. Rx	Without Rx	With Dist. Rx	Without Rx	With Dist. Rx
1	4pt/3"	4pt/3"	NG	4pt/20"	NG	4" diff.	NG	4"
2	18pt/2"	NG	7pt/11½"	NG	NG		11½"	
3	NM	6pt/1½"	NM	5pt/5"	NG			
4	18pt/8"	14pt/7½"	5pt/7"	5pt/6"				6" diff.
5	NM	14pt/5"	NM	5pt/5"			NG	3"N/M
6	24pt/1"	18pt/1"	1" NG	7pt/2"	NG			2½/2"
7	10pt/1½"	4pt/2"	7pt/2"	4pt/5"		no use		
8	4pt/4"	4pt/7"	4pt/6"	4pt/13"		6"		12"
9	5pt/1½"	5pt/1-1/8"		4pt/5"		1½"		3"
10	4pt/4"	4pt/2½"		4pt/14½"		3"		14½"
11	10pt/6"	4pt/2"	4pt/10"			2"		10"
12	4pt/2½"	4pt/5"		4pt/8"	2½"			8½"
13	7pt/3"	4pt/3"		4pt/14"		4"		14"
14	NM	4pt/7"		10pt/20"		no use		
15	5pt/2½"	5pt/2½"		4pt/6"	NG			14"
16	NM	24pt/1"		24pt/8"		1½"		8"
17	NM	5pt/9½"	NM	4pt/14½"		10"		14½"
18	5pt/4½"	4pt/3"		4pt/9"	2½"			9"
19	14pt/2"	7pt/3"	5pt/6½"	4pt/6"		2"		9"
20	7pt/3½"	5pt/4"		4pt/16"		12"		17"
21	10pt/8"	5pt/7"	5pt/15"	4pt/17"	6"	8"	17"	17–19"
22	5pt/6"	4pt/4½"	4pt/4"	4pt/16"	5½"	4½"	10"	14"
23	14pt/16½"	4pt/2½"	5pt/16"	NG	NG	3"	NG	NG
24	18pt/2"	16pt/2"	4pt/3"		1½"	3"	5½"	NG
25	18pt/7½"	4pt/6½"	5pt/12"	4pt/17"	4"		17–20"	22"
26	14pt/5½"	4pt/3"	4pt/10"	NG	NG	4"	11"	NG
27	14pt/11½"	7pt/3½"	4pt/5"	4pt/2"	NG	NG	3½"	NG
28	5pt/7½"	4pt/6"	4pt/11½"	4pt/17"	10"	10"	24"	24"
29	7pt/4"	4pt/2"	4pt/7"	NG	NG	2½"	7"	NG
30	18pt/1½"	10pt/1½"	7pt/4"	4pt/4½"	NG	1½"	2"	4"

TABLE 1

Best Results in Near Vision (Chart) and Reading Tests With and Without Prescription Lenses Hand-Held and With the Optiscope Enlarger

using the Optiscope Enlarger. The subjects were then asked the following questions: 1) Do you have any comments on the instrument? 2) What do you think of it? 3) Could it be of use to you? 4) How do you think it may best be used? 5) Do you think there could be any special use for it?

It will be seen from Table 1 that in all cases a smaller type on the chart could be read, the chart could be viewed at a greater distance, or both when the chart was placed in the Optiscope Enlarger.

Discussion

☐ The better performance without optical aid than with the aid customarily used by some subjects can be explained by the fact that the aid was fitted for shorter distances. The magnifications required by some of the subjects called for increased lens strength and a consequent shorter working distance. When improvement was secured with a prescription lens on the Optiscope Enlarger, it was with a distance prescription or the distance portion of the bifocals worn. Should the device come into use, therefore, the viewing distance best suited to each patient would have to be considered in prescribing lenses.

Differences in performance using the selected materials could be based on additional factors beyond the distance requirements of the optical aid used.

The chart acuity measurements involved the use of numbers, while the selected material required some additional skills in recognizing letters, words, and phrases. Many of these subjects, because of their vision limitations, had lost or never fully developed these skills. Hence handicaps in word reading appeared.

Because of their training, many of the subjects were also accustomed to reading at very close distances. Some had to be repositioned and to adjust to being able to read at more normal distances.

Causative defects, listed in Table 2, may have negated the use of the larger projected image size for some subjects. The relation of performance and acceptance on the Optiscope Enlarger as related to causative defects is also shown in Table 2.

TABLE 2

Relation of Pathologies to Performance on and Acceptance of the Optiscope Enlarger

	n	*Pos*	*Quest*	*Neg*
Albinism	2	2		
Amblyopia	2	1		1
Cataract/Aphakic	3	1	1	1
Corneal*	2			2
Glaucoma	1	1		
Nystagmus	3	3		
Optic Atrophy	8	4	3	1
Retinal**	4	1	1	2
Retrolental Fibroplasia	4	4		
Uveitis	1	1		
Totals	30	18	5	7

*Corneal degeneration—1, Micro-cornea—1
**Chorio-retinitis—2, Retinitis—1, Retinitis Pigmentosa—1

Based on the responses of the subjects and on the observations of the investigators, it was found that 18 of the subjects responded favorably to the Optiscope Enlarger and would benefit from its use; five had a questionable response; and seven definitely rejected or gave indication of inadvisability. Those subjects responding favorably did so completely, while rejection was equally complete with those subjects who received no help from the device.

One great advantage that was noted by several parents who were present during the testing was the fact that more than one person could view the material simultaneously. Using only prescription lenses, the child wanting assistance must look at the material, hand it over to the parent or teacher, take it back, and relocate his place on the page—often with some difficulty. Some subjects expressed a need for greater illumination. It was suggested that the device would be of great help in viewing diagrams (electronic, automative, etc.).

Summary

☐ 1. Thirty consecutively selected low vision patients were evaluated on their performance in viewing a standard near-point chart and selected materials. This was done unaided and then with their customary low-vision aid, first hand-held and then viewed in the Optiscope Enlarger.

2. All subjects demonstrated an ability to read smaller point chart type and to do so at a greater distance with the Optiscope Enlarger. Varied responses on the selected materials might be attributable to word reading difficulties or the effect of the causative defect.

Distance factor

3. Some subjects did better without their low-vision aids or went to distance prescription lenses while using the Optiscope Enlarger. Use of this type of device indicates the necessity for testing for greater distance than normally associated with low-vision aids.

4. Responses of the subjects were 18 favorable, five questionable, and seven negative. It was found that room illumination had to be varied in certain cases.

5. Use of this device would permit simultaneous viewing by parent and child at home, reading at more normal distances, greater word and phrase span, and the viewing of technical diagrams.

6. The results of this evaluation indicate that the Optiscope Enlarger is of substantial value and warrants further investigation.

The Use of Aluminum Sheets in Producing Tactual Maps for Blind Persons

ROGER W. CRAVEN

Mr. Craven is a vocational rehabilitation counselor, Service for the Blind, Washington State Department of Social and Health Services, Seattle.

During the past five years I have been developing a method for using the thermoform machine to make very inexpensive, clear embossed maps, charts, and diagrams for blind persons. Although making embossed maps is only a hobby of mine, my blind friends seem to find the maps useful because of their clarity and the information conveyed by them. The present article is an effort to share the details of this method with those who might be interested in using it.

With the exception of the braille slate, all of the materials and tools for making the master copy can be obtained without cost. Some people might prefer to buy certain inexpensive tools, but that is their choice.

The Master Copy

☐ The master copy itself is made from a sheet of aluminum cut with scissors or paper cutter to a 10-inch square. Supplies of this material can usually be obtained free from any printing office which uses the photo-offset method of printing. The aluminum alloy sheet is simply a photo-offset plate which has served its purpose in the printing process and is ready to be thrown away. One such office where I am known gives all such used plates to me, and so far I have accumulated the sheets faster than I can use them. The sheet, which usually has printing or pictures on one side, is easily cut with scissors or paper cutter; it responds to the various tools and takes an impression perfectly. Also, it can tolerate "erasures": one can easily mash down an unwanted mark or dot without a trace. This sheet will receive and hold a great variety of markings, including very intricate ones, and can be impressed with various textures to represent cities, mountains, rivers, plateaus, desert areas, agricultural regions, or whatever one needs. One can make a good sharp line no thicker than many of the lines appearing on printed maps. It can also be used for making organizational charts, flow charts, geometric drawings, and diagrams for other aspects of science and mathematics.

Tools

My favorite tool for most markings is a simple hat pin that is cut short and held in the chuck of a pin vise. The whole thing is about the size and shape of a pencil and can be handled easily. I have been using the same hat pin for five years and it still seems to be as "good as new." I make lines using this point by punching holes at about 1/16-inch intervals along the desired route. If desired, a pin vise can be purchased in a hobby shop for about $1.25. Another possibility is a cast off dentist's "pick," or "explorer," as it is called by dentists. One can usually get one (or in fact several) of these tools by asking a dentist if he has some old ones that he has discarded. My dentist gave me a large handful of old tools of this sort which he had in his junk drawer. The tool is easily straightened with pliers and filed to the proper kind of point. No amount of money could buy a more suitable tool than this. If the handle is too small, it can be enlarged by binding it in masking tape until it is comfortable to hold and work

with. Other picks can likewise be fashioned with a file to form a small sharp bladed screwdriver which is handy for certain types of markings (freeways, state boundaries) and to make a braille stylus. One also needs a blunt-ended tool resembling a carpenter's nail set to be used as an "eraser." Speaking of erasers, it is best not to rub the erasing tool on the metal sheet as is done with a rubber eraser, but rather to put the sheet on a hard surface and mash down each unwanted dot or mark one at a time.

Other equipment

Another valuable but inexpensive item is a piece of ordinary wire fly screen cut to 10 inches square, the same size as the aluminum sheets. This screen is used in making a rough texture to represent oceans, bays, estuaries, and large lakes. In making the master copy of a map involving a coastline, for example, the water areas are cut out with pointed scissors about 1/8 or 1/16 inch outside the coastline. When the master copy is placed on top of the square of wire screen on the thermoform machine, the contrasting textures of smooth land and rough water areas will be impressed on the soft plastic with absolute clarity.

Tracing wheel

A tracing wheel can be useful and efficient in some cases, for example, when the long straight lines are needed for geometric diagrams or city streets. The tracing wheel is often too crude in many spots, however, and a hat pin or dentist's pick is preferable, especially in such matters as making sharp curves or various intricate markings.

The tool which I use for making the symbol for a city is the blunt end of the brass cartridge of an old ballpoint pen. If one cannot find one of these, then a small circle of dots can be used. A circle guide is very useful for this as well as for a variety of other purposes. Finally, the braille slate is adapted by filing off the four guide studs which would otherwise leave unwanted holes in the aluminum sheet.

Method

☐ My method, stated in its simplest terms, consists of just two steps. First, a carbon paper tracing of the desired map is made on a sheet of white paper ten inches square. In doing this two sheets of carbon paper face "in" against each side of the white paper like two slices of buttered bread facing in against the piece of ham in a sandwich. By tracing in this manner, a "positive" carbon tracing appears on the top side of the paper and a "negative' or reversed tracing appears on the underside. The best stylus I have found for this tracing process is an inkless ballpoint pen.

Second step

Second, the tracing with the negative side up is placed on the aluminum sheet, clamped together with two paper clamps, and placed on top of about four or five layers of ordinary pasteboard. Then, the carbon lines are traced using a pointed tool such as a pin, screwdriver, tracing wheel, or dentists pick, embossing them into the metal. When using a pointed tool such as a pin in a pin vise or dentist's pick, the instrument should be held between the thumb and the fingertips of the first three fingers, perpendicular to the paper, rather than like a pencil. After making all the markings in the metal sheet, the braille labels are added, the aluminum turned over, and the master copy is ready for the thermoform machine.

Attitude

☐ While that is the method, stated in brief, there is of course a great deal more to the process than just that. One essential in the process even before





Far left: Tracing the map with a dry ball point pen.

Left: The completed tracing—positive on the front, reversed on the back of the page.

Right: Embossing the aluminum sheet through the reversed tracing of the map.





Far right: Adding the braille labels to the aluminum sheet.



Left: Cutting out the areas of water which are to be indicated by a wire screen texture on the final map.

Right: A completed tactual map, showing also the print map from which it was copied.



taking a tool in hand is the development of an attitude by which one rejects almost completely the idea of reproducing a traditional printed map in raised lines and braille. You do not reproduce the printed version of a map. An entirely new and original map is constructed and the only use made of the printed map is for help in placing things properly.

Consult with student or teacher

Before making any map it is well to consult with the student or with his teacher to find out specifically what information is desired. It is not a clear enough assignment for someone to say, "Give me a map of so and so and put everything on it." The person making the map should know what features are needed, what things are important, and what things are not important. Then, and only then, can he make a map which will meet the needs of that student.

Questions to ask

While a printed map is likely to have many different types of lines, colors, and textures on it, labeled with several types of print, a map for the use of a blind person will deal with just a few types of features labeled in just one medium, braille. The embossed map is much simpler and more selective in its content than the printed map. So the first question must be what information is to be conveyed to the blind student? Is he interested in political boundaries? Cities? Rivers and mountains? Roads? Railroads? Types of vegetation? Well-known buildings on a city map? Bus lines? Traffic lights? The main buildings on a college campus? Sidewalks? Steps? All of those things and more can be indicated but not all at once!

Such selection requires some personal discipline for there is an impulse to be "greedy" and to put everything on a map just because it exists. In the long run the student learns more if in the short run he is told less. The amount of information that can actually be put on one map with clarity and precision is learned only with experience.

Integrated Approach

☐ At every stage of planning and making a map, one must consider every step, simultaneously. For example, when planning the size of a map, the amount of space required for the key (especially if the key is on the same page) must be considered and to do that one must know how many braille cells are required for the longest word. All of this thinking should take place before the first mark is made in the metal. The remainder of this article deals with the many different details that must be taken into consideration.

Learning braille

A maker of braille maps should not hesitate to learn the essentials of braille, not as one big project all at once but gradually as one goes on. In fact, the knowledge and use of the essentials of braille is, in my opinion, necessary to any person who wishes to make good braille maps. Such knowledge is used at every stage of the planning and execution of the map, including decisions about what features to include and how these features will be indicated.

I acquired my knowledge of braille incidentally along the way from a pamphlet on the subject. I never deliberately decided to learn braille, but every time I needed to use a letter or a contraction I looked it up in the pamphlet. About a year passed before I needed to learn "z" and "q" for Suez and Quebec. I owe many thanks to my several blind readers who have been patient in putting up with my frequent errors and in explaining some of the finer points of the game. The best consultant available to the maker of braille maps is some

blind friend who enjoys maps and who can judge what is clear on the map and what is not clear. Be slow to take advice from a sighted person. Be quick to ask a blind friend.

Explanatory Key

☐ An explanatory key is a necessary adjunct to a good braille map. It may be on a completely separate sheet or it may occupy a strip along either the right or left side of the map itself. There are advantages and disadvantages either way, and one just has to use his judgment in each individual case. Making a key and having it integrated in the total key-and-map unit, is just another way in which braille maps differ greatly from being simply braille imitations of printed maps.

Abbreviations

In making the key it is important to use a system of abbreviations which requires the minimum of space on the map itself, yet carries the most meaning to the reader. The system I do *not* recommend is the assignment of a number on the map to a name spelled out in full on the key. This system is unsatisfactory because there is no meaningful relationship between an arbitrary number and a word. The reader has to refer to the key every time he uses the map. A better system is to use an abbreviation of the real name. It may consist of just one letter such as "V" for Valdez in Alaska, as there is only one city in Alaska beginning with that letter. The same would be true for "Y" to indicate Yakima in a state map of Washington. The first two letters of the name such as "PI" for Pittsburgh and "PH" for Philadelphia in a state map of Pennsylvania might be necessary for clarity.

Braille contractions

Sometimes, as in the case of Binghamton, New York, there is a handy contraction in Grade II braille that allows one to crowd the entire syllable "Bing" into just two cells. Most people from New York would be able to figure that one out, without even looking at the key. In the case of California where many names start with "San," I simply abbreviate the principal part of the name such as "FRA" for San Francisco, and on the key call it San Francisco, but listed among the "F's." The same device can be used in maps of New England where there are so many "NEW" names. New Haven is marked "H" or "HAV" on the map, and New Haven is listed among the H's on the key, just after Hartford.

Reading abbreviations

Having meaningful abbreviations on the map can bring surprising reactions sometimes. I know one high school senior, a bright and alert student, who has a good fund of information in his mind. When he examines a new map, he makes it a game to see how many of the names he can figure out from the map without referring to the key at all. In examining a map of the state of Ohio he did quite well on Akron, Columbus, Toledo, and some others, but he was puzzled by a city on the shore of Lake Erie labelled "CL." He struggled with it manfully and when he finally had to give up and refer to the key, he burst out in a laugh and good-natured self-reproach when he saw "Cleveland."

I never use capital letters on my maps; the use of that extra cell for the braille capital sign takes up more space than it is worth. The same principle applies to the key.

Placement of Labels

☐ It is appropriate to bring up another point about labels on the map, one which many people who are accustomed to using only printed maps might not realize. A label should not be too close to the feature that it identifies. As we all

know, the name of a city on a printed map can be quite close to the city symbol. On braille maps, however, the reader can sometimes confuse the city symbol with the label, and mistakenly think that one is part of the other. The label should always be sufficiently far away so the reader makes no mistake in recognizing the braille label and the city symbol. A good rule is: Never place a label closer to a city than the distance between two dots in a braille cell.

Information to include

Incidentally, the key sheet often provides the opportunity (and the space) to give significant information about locations on the map such as county seats, state capitals, population of cities, height of mountains, diameter of craters on the moon, and other data. The unique combination of map and key is a good educational tool. The map tells *where*, the key tells *what*, and the textbook tells the rest of the story.

Rivers

While on the subject of the key, it should be mentioned that I never put the name of a river on the map itself. One reason is that the winding rivers would too often force a violation of the generally good rule of always writing braille on the map right side up. For the braille reader to spend time and effort wondering which way is up, as far as the braille is concerned, is a frustration and needless waste. Also, in placing the river on the map, first straighten out some of the excessive bends and kinks for the sake of simplicity. The river is then identified on the key in terms of some other feature which is labelled. For example, in a state map of New York, the key might read, "Hudson River flows south past Albany"; or on a map of the Great Plains region, "Mississippi River—mouth at New Orleans," and "Ohio River—joins Mississippi River at Cairo."

Minimizing use of labels

The same device can be used in identifying other features on a map without using valuable map space for braille. For example: "Troy, New York—one inch northeast of Albany" or "Mt. Rainier: southeast of Tacoma." The symbol for the mountain (an inverted "V") is on the map of course and since it is the only mountain peak in that direction from Tacoma, the identification is clear and complete. By using this device, the experienced braille map-maker can get a surprising amount of information on a single map. It is not hard to identify 40 or 50 features on a single map while still keeping it uncluttered.

The fact that a rather comprehensive key might extend over one or two pages is no problem, as long as the map remains simple and clear. The assiduous braille-reading student can glean all the information he wants. Then, of course, in the case of all maps, the blind student can often benefit from discussion with a sighted friend who has a printed map of the same area.

Lack of Uniform Symbology

☐ Much has been written by sighted researchers, cartographers, and others in an effort to establish some sort of universal symbols for use in braille maps, one in which all cities, for example, would be represented by one type of symbol, all rivers by another type, all state boundaries by another, all roads by another and so on indefinitely. But some perspective can be gained if it is realized that even on printed maps there is little uniformity; for the most part the reader just uses his common sense in interpreting the great variety of printed symbols he encounters. Generally, experience and common sense are sufficient. I think we can expect the same to hold true for blind map-readers, too. If a certain kind of dot or tiny circle is always found near the braille name for a city, then obviously that dot represents a city, a fact that the student can easily figure out.

In the braille map of New York, there is only one "thing" running north and south past Albany. So, in the context of the key accompanying that map, that "thing" or line of a certain texture can only mean a river. That type of line, used for the Hudson and Connecticut Rivers cannot possibly be confused with the types of lines used for state boundaries. In other words, the context will tell the reader what the different types of lines mean, and there is no need for a universal code.

Reader uses context

Also, in this connection, blind people, just like sighted people, vary a great deal in their sense of spatial relationships and in their general fund of facts. An experienced reader of braille maps can glean a great deal of information from a very full map that would leave a novice quite confused and discouraged. The intended reader, therefore, should always be kept in mind.

While dealing with the subject of keeping maps simple, it should be emphasized that not too many types of lines should be used on the same map. For example, on a regional map showing several states, good strong state boundaries are necessary, but the addition of rivers, roads, and county boundaries should be minimized. It will be better to leave them until later. Remember that the blind student "sees" only a fingertip area at one time. He cannot encompass an entire field in one glance as a sighted person does, but must put patterns together in his mind on the basis of the lines he follows with his fingertips, one at a time. This task can be made easier for him by keeping the patterns simple.

Limiting kinds of lines

☐ I have learned that road maps are much appreciated by blind readers, especially if the roads and towns are part of their past or present experience. I have in mind one individual who, in making his occasional trips from Seattle to Olympia, likes to discuss with his driver the events of the drive which he can anticipate because of his acquaintance with his road map. He follows his route down the eastern side of Puget Sound, discusses things with his driver such as the spots where the Sound is in view, where the freeway takes a broad turn to the west, up a long hill, turns south, goes past a shopping center, down a long hill, and crosses the Nisqually River. He has learned the course of this river from its origin in a glacier on Mt. Rainier from another map. He has learned from yet another map that the river is the boundary between Pierce and Thurston counties. He recognizes the bridge by the sound of noises echoing from the bridge structure and knows that he is crossing into Thurston County and will soon be in Olympia. Notice that in this experience he is using knowledge gained from three separate braille maps—a road map, a map of county boundaries, and a map of natural features.

Road Maps

Being able to anticipate and to recognize different events of the journey adds an enjoyable new dimension to the otherwise monotonous sounds of the motor, the rolling of the wheels, and the bumps of the road. It enlarges and gives more meaning to his experience of travelling.

☐ In my opinion, the scope of study within reach of totally blind students can be greatly expanded if the parents, teachers, or friends of those students can become involved in making embossed maps and diagrams of all kinds. Every blind student should have his own copy of all the maps of his country, state, city, and those countries of the world which he needs. He should have a chance to know geography just as thoroughly as any other student in the class. If he is

Other Kinds of Tactual Displays

studying physics he should have at his fingertips the essential diagrams of atomic structure, the action of sound waves, the law of the lever, the laws of electromagnetic forces, etc. If studying anatomy, he should have his own braille diagrams of a cross-section of the human eye, brain, digestive system, etc. In astronomy he should know how the Big Dipper appears and how the circumpolar stars turn in their great circular movement around the Pole Star.

Differences

What I have said concerning maps often also applies to diagrams, charts, histograms, and other kinds of illustrations. On the other hand, it might sometimes not apply. That is, in making such things as diagrams it might not be best to trace at all, but to construct a completely new chart. In this case, the diagram is drawn with pencil on just the top side of the paper, without any carbon paper. The distances and proportions of the original diagram may be altered to allow for the much greater space needed for braille. After making all the corrections and adjustments necessary, the labels and drawing are traced with a dry ball point and a sheet of carbon paper facing the back of the sheet, thus making a reverse drawing on the underside of the paper. When this is completed, the paper is turned over so that the "negative" side is up; the drawing can then be pressed into the aluminum sheet as described earlier.

Map-Making as a Hobby

☐ In bringing this discussion to a close, I want to emphasize the enjoyment which the hobby of braille map-making can bring to the person engaging in it. It is useful, convenient, and entails virtually no expense. I have made maps while waiting for my wife in the supermarket, using an empty shopping cart as a support for my small portable plywood "desk." I have made many more while standing at a table in the laundromat. I have several times alphabetized my map keys while riding on the city bus. It is a hobby which can be tucked into all sorts of odd corners of one's daily life when one has a few hours to spare here and there.

Moscow Conference for Blind Computer Programmers

Abraham Nemeth, Ph.D., associate professor of mathematics at the University of Detroit, and Charles E. Hallenbeck, Ph.D., associate professor of psychology at the University of Kansas, will represent the United States at an international conference on the education and employment of blind computer programmers being hosted by the All-Russia Society for the Blind in Moscow on November 13-17, 1972. Two representatives from each of 15 countries have been invited. The American professors will attend under the auspices of the American Foundation for Overseas Blind, New York City.

Lycoming Workshop Pioneers in Producing Venetian Blinds

Two years ago, the workshop of the Lycoming County Branch of the Pennsylvania Association for the Blind, Williamsport, began working with the Alcan Aluminum Corporation to produce custom venetian blinds. Chosen because of the variety of manual activities involved, the venetian blinds are manufactured according to state and federal specifications and are competitively priced. The lengths of material from Alcan are cut and assembled by three or four blind and visually handicapped workers. The workshop produces about 5,000 Alcan venetian blinds each year, including the Vertical, Audio-Visual, and Twinighter models.

At the beginning of the program, the workshop received a contract from the State General Service Administration to provide blinds for several state projects. Because of the success of the operation, the workshop is expanding it and has been given permission by the state and its own Board of Directors to bid on school projects and to compete for other contracts in the open market.





Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1,000 words in length.*

Blindness: A Field in Need of Compromise
Peter Rossi, Jr.

I regard the opportunity to help people who are blind to help themselves as one of my most important contributions in life. From experience, both vocational and academic, I have noticed certain patterns which greatly disturb me and; possibly, other concerned people in the field.

From its inception, the act of educating students who are blind has been surrounded by controversy. It was 60 years after Valentin Haüy opened L'Institution National des Jeunes Aveugles in France that determined men were able to open the *first* school for the blind in the United States. Later, in 1866, Dr. Samuel Gridley Howe, the first director of the Perkins Institution for the Blind, said, "All great establishments in the nature of boarding schools . . . are unnatural, undesirable, and very liable to abuse. We should have as few of them as possible, and those few should be kept as small as possible" (pp. 127-28).[2] Despite this and other contemporary sentiments regarding the desirability of educating blind children in the public schools, it was not until 1900, nearly 35 years later, that the first steps were taken to open classes to the totally blind in Chicago.

In education today, the stress is on meeting the individual needs of the student. Yet, controversy (or what I refer to as professional jealousy) still exists. Why must all this time and effort be wasted? Compromise is needed. One possible solution to this dichotomy of ideas was discussed by Benjamin Smith, present director of the Perkins School for the Blind, at the April staff meeting of the New Jersey Commission for the Blind and Visually Impaired. Since the efficacy of special education is being questioned and accountability is now a common word, Mr. Smith anticipates a new trend that will place as many handicapped children as possible in the regular school classroom. Those who cannot survive in a regular program would attend residential schools. Perhaps this controversy will end and our energies will go toward helping the child instead of prolonging professional jealousies. After all, we do want to educate the child.

Another topic that has caused controversy is certification of mobility instructors. There are certain people who spend time arguing that at least a master's degree is necessary to teach cane travel. James A. Kimbrough, chairman of the Orientation and Mobility Department, Greater Pittsburgh Guild for the Blind, has earned a master's degree in orientation and mobility, but he has stated that it is his "opinion that the ability to teach orientation and mobility is not determined by college degree or place of training. Nor do graduate programs, in their present structure, necessarily guarantee the most professional teacher preparation available" p. 276).[3] Kimbrough proposes a compromise that allows for a distinction between the graduate, undergraduate, and agency-trained specialist. In essence, all groups would be able to teach some phase of mobility, but the graduate with the master's degree would specialize in the role of director, consultant, and faculty member. I wonder how many people who are blind receive little or no mobility training in organizations and schools where personnel with advanced degrees are not available. After all, we do want individuals to be mobile.

A third topic that has caused controversy is the establishment of a raised dot code. Hector Chevigny and Sydell Braverman tell of the controversy often referred to as "The War of the Dots."[1] In 1868, William Bell Waite, superintendent of the New York Institute for the Blind, tested the reading abilities of students in American schools. He found that two-thirds of them brought up on raised letters (Moon Type) could not be said to read, while all of those attending the one school where a raised dot code was used were rapid readers. Nevertheless, more than 10 years passed before people began to accept the idea of using a raised dot code.

The dissension and insularity marking organizations for the blind were already outstanding characteristics in the 1860's. Despite its acceptance, the use of raised dots proceeded to stir up discord. The institutions insisted on making modifications to agree with their personal ideas and they stubbornly adhered to these modifications. As a result, by 1895, a sad situation existed. New York, Ohio, and North Carolina were in the New York Point Camp. Most of the rest of the country was in the American braille camp. Against both major camps were a few schools that clung to British braille.

The bitterness of the conflict can hardly be imagined. Printing houses producing books were perplexed. Rodenberg notes that "arguments, jealousies and wasteful duplications ran riot" (p. 9) and "worst of all, blind people had only half of the possible library" (p. 10).[5] The educators took a most uncompromising attitude and refused to consider experimentation as a possible solution. Lowenfeld, Abel, and Hatlen point out that it was more than 30 long years before "all American organizations, including the Library of Congress and after considerable delays, the American Printing House for the Blind, adopted the new braille Grade 2 (Standard English braille)" (p. 10).[4] Unfortunately, further revisions took place in 1959 and 1962. Unfortunately also, there exist special braille codes for music, chemical notations, and mathematical notations.

On Tuesday, May 2, 1972, I attended a mathematics workshop for educators to discuss the 1972 revision of the Nemeth Code for mathematics and science. The workshop was part of the National Braille Association spring meeting held in Saddle Brook, New Jersey. Some who attended the workshop advocated a return to the Taylor Code. Others wished that the proposed changes in the Nemeth Code would never be adopted. Still others thought the changes were good. After having listened to a panel on this subject, I am under the impression that these changes are for the purpose of satisfying personal jealousies. Members of the panel stated that the Braille Authority was reduced from eight to two persons because of conflicting points of view. It was also states that many of the changes were for the benefit of the transcriber rather than the forgotten person—the student!

It was the opinion of many educators attending that the present Nemeth Code was too difficult because of its many rules and exceptions. As a result, many students and educators do not fully understand the Nemeth Code and use their own methods for writing problems. I have in my possession a note signed by more than 50 percent of the participants who thought the changes in the Nemeth Code should have been for the benefit of the average student. I think it is sad that so many people have to be dissatisfied.

One possible solution to the problem would be to ask students who use braille and educators who teach braille everyday in schools for the blind to evaluate the Nemeth Code by means of a questionnaire or through field testing.

I do not understand why the person who is blind does not protest these constant changes. It is conceivable that some people today have learned more than two literary codes and several mathematical codes. Although mathematicians and scientists have proposed a change to the metric system, which is used by all major countries in the world except Canada and the United States, it is expected that the change cannot start until mathematicians and scientists finish researching the problems of changing from one system to another. It is expected that this change will have to take about ten years. Still when this change starts, some people will undoubtedly oppose it.

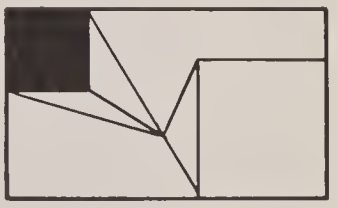
I am not opposed to change. However, I am opposed to change designed for personal gratification. I cannot sympathize with those who oppose change for personal reasons. I view the above controversies as supportive evidence of Robert Scott's thesis that the disability of blindness is a learned social role.[6] This article was not written to start more controversy. Let us hope we can began an era of negotiation rather than confrontation. Perhaps the concerned reader will suggest and implement other means of compromise, designed for the good of the people we seek to help.

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4. Lowenfeld, B., Abel, G. L., and Hatlen, P. H. *Blind Children Learn To Read.* Springfield, Ill.: Charles C Thomas, 1969.
5. Rodenberg, L. W. *The Story of Books for the Blind.* New York: American Foundation for the Blind, 1952.
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Mr. Rossi is an educational counselor/itinerant instructor with the New Jersey Commission for the Blind and Visually Handicapped, Newark.

Letter to the Editors



A Do-It-Yourself Closed-Circuit Television Reading System

To the Editors:

I have read with interest the "News in Brief" item in the May 1972 issue of the *New Outlook* (p. 154) about the Apollo Lasers television reading system, apparently another version of the Visualtek system which is advertised in the *New Outlook,* and which I have seen demonstrated.

Perhaps your readers would be interested in knowing about a very satisfactory, relatively inexpensive closed-circuit television reading system which we have been using very successfully with a number of our partially sighted students.

For under $550 we have purchased and had installed a video camera modified for picture reversal, a 12-inch monitor modified with a reversal switch, and a sturdy copy stand with illumination. We have another installation with a 17-inch monitor, but do not think that the larger screen is worth the additional cost.

The only advantage of the commercial set-ups over ours is that ours is not portable. This could be remedied with relatively inexpensive carrying cases should anyone feel it important.

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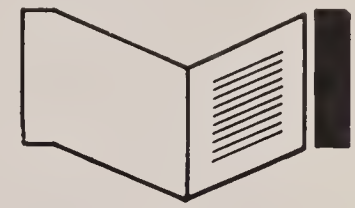
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in a store, but with a profit to the supplier nevertheless. Many reputable suppliers will sell such a set-up to a visually handicapped person and remain content to make a modest profit.

Our equipment is a Sony AVC 3000 video camera, a Burke and James copy stand, and a Sharp television monitor. More expensive monitors have features not required by this reading system. The price we paid included the equipment and the modifications to camera and monitor.

(Mrs.) Muriel C. Lass
Materials Coordinator, Visually Handicapped
Cincinnati Public Schools
Cincinnati, Ohio

Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind prepared by Mary Maie Richardson, chief librarian.

Visually Handicapped Children, Birth to Three Years, by Winnifred Connelly. Ann Arbor, Michigan, University of Michigan Medical Center, Child Development Project, December 13, 1969, 10p. (Available from ERIC Document Reproduction Service, Leasco Information Products, Inc., 4827 Rugby Avenue, Bethesda, Maryland 20014. Order # ED 041 429; Microfiche—65¢; Hard copy—$3.29) The mother's role in the early development of the child is emphasized. She must be encouraged to provide a warm, safe atmosphere conducive to learning activities.

Behavior of Young Blind Children in a Controlled Play Session, by Perla Tait. *Perceptual and Motor Skills* (University of Montana, Box 1441, Missoula, Montana 59801), Vol. 34, No. 3, June 1972, pp. 963-69. Purpose of the study was to compare the play behavior of blind children (age range four through nine) with that of sighted peers.

The Miraculous New "Eye Exams," by Paul Damerel. *Woman's Day* (BCOP, Post Office Box 1000, Greenwich, Connecticut 06830), Vol. 35, No. 11, August 1972, pp. 40, 88, 99. 40¢. Report on a new vision testing technique called VER, "Visual Evoked Response." The technique interprets electrical brain waves to measure precisely how sharply a person is seeing from moment to moment.

How to Include Blind and Partially Seeing Children in Public Secondary School Vigorous Physical Education, by Charles Buell. *The Physical Educator* (6919 E. 10th Street, Suite E-4, Indianapolis, Indiana 46219), Vol. 29, No. 1, March 1972, pp. 6-8. Dr. Buell teaches in the Long Beach, California, public schools.

Blind Students Learn Karate, by David Fisher. *Journal of Rehabilitation* (National Rehabilitation Association, 1522 K Street, N. W., Washington, D. C. 20005), Vol. 38, No. 4, July/August 1972, pp. 26-27. The author, who holds the rank of first degree Black Belt, realized that the training sequences in karate depended on concepts similar to those employed in perceptual motor training. The karate training exercises aid in the development of kinesthetic awareness and could be of special value to the blind who often have problems related to balance, posture, and coordination.

Blinded at 63, I Can Still Learn, by Miriam H. Lipman. *Music Educators Journal* (Music Educators National Conference, 1201 16th Street, N. W., Washington, D. C. 20036), Vol. 58, April 1972, p. 60. A former teacher, who lost her sight two years ago, describes her experience in learning to play the piano and the organ.

Blind Children Need Training, Not Sympathy, by Muriel K. Mooney. *Music Educators Journal* (see address above), Vol. 58, April 1972, pp. 56-59. The author teaches piano, music theory, and music appreciation at the New York State School for the Blind, Batavia. The last page of her article discusses specific resource material available to both student and teacher.

Aberrations From Proper Touch Technique, by Bruce Wallace. *The Long Cane News* (Institute of Blind Rehabilitation, Western Michigan University, Kalamazoo, Michigan 49001), Vol. 5, No. 1, May 1972, pp. 6-11. An outline of the various problems that arise from improper handling of the cane; it is divided into sections such as Grasp, Arm Position, Wrist Action, etc.

Patterns of Travel for Blind Travelers, by Robert M. Friedman. *The Long Cane News* (see address above), Vol. 5, No. 1, May 1972, pp. 12-22. A scheme, presented in outline form, designed to develop a blind person's ability to conceptualize trips as an aid to orientation.

Cane Travel Techniques, by Donald R. Williamson. *The Rehabilitation Teacher* (National Braille Press, Inc., 88 St. Stephen Street, Boston, Massachusetts 02115), Vol. 4, No. 5, May 1972, pp. 3-23 & Vol. 4, No. 6, June 1972, pp. 3-23. A two-part article based upon the personal experiences of the author, who is blind. He has divided his material into 15 lessons covering both simple and complex problems encountered in the course of the daily three-mile walks which he takes for pleasure and exercise.

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Portrait of a Young Lady, by Geoffrey Smith. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6 AA, England), Vol. 56, No. 662, June 1972, pp. 146-49. An interview with Miss Wendy Sharpe, blind since birth, who works as a secretary in an engineering firm. Miss Sharpe recalls her childhood, schooling, and early working experience.

Additional Listings

A listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind *prepared by the editors.*

Agency Administration

Is It Time for Volunteers' Lib? by Ellen Strauss. *House and Garden,* July 1972, pp. 24, 109, 114. A discussion of the rights of volunteers by the founder and national chairman of Call for Action, a volunteer-run consumer-citizen complaint bureau that helps people get action in 11 cities. Mrs. Strauss has also written *The Volunteer Professional: What You Need to Know,* a booklet in which she describes three congressional bills concerning volunteers and includes a model agency-volunteer agreement (available for one dollar from Call for Action, 888 Seventh Avenue, New York, New York 10019).

Motivating Attendance in Parent Education Groups, by Edith Fein. *Social Work* (National Association of Social Workers, 49 Sheridan Avenue, Albany, New York 12210), Vol. 17, No. 4, July 1972, pp. 105-7. A brief article reporting on an experiment in Hartford, Connecticut, in which the parents of children in Head Start programs were paid five dollars for each meeting they attended. Rate of attendance for the six meetings of the group was 80 percent.

Aging

Recommended for Action is a series of 23 interim reports covering the recommendations of the subject matter sections and the special concerns sessions of the 1971 White House Conference on Aging. Limited numbers of the reports are available from the Administration on Aging, U.S. Social and Rehabilitation Service, Washington, D.C. 20201; the reports may also be purchased in bulk from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The reports cover the following topics: the aging and aged blacks; the Asian American elderly; disability and rehabilitation; education; the elderly Indian; employment and retirement; facilities, programs, and services; government and non-government organization; health care strategies; housing; income; nutrition; physical and mental health; planning; protective and social support; research and demonstration; retirement roles and activities; roles for old and young; the rural and poor elderly; the Spanish speaking elderly; spiritual well-being; training; and transportation.

Attitudes

Seeing Is Believing, by Alan Dundes. *Natural History* (American Museum of Natural History, Central Park West at 79th Street, New York, N.Y. 10024) Vol. 81, No. 5, May 1972, pp. 8, 10-12. A folklorist takes a brief look at visual terms used in American speech illustrating how much culture affects perception.

Directories, Catalogs, Lists

Resources in Home Economics for the Blind Homemaker, by Verda M. Dale and Susan J. Uhlinger. Massachusetts Home Economics Association (available from Supportive Services Department, Massachusetts Association for the Blind, 120 Boylston Street, Boston, Massachusetts 02116), 1969, updated with a new supplement in 1972. Print edition, 50 cents each for original and supplement; braille, $2.00 for original, $1.00 for supplement. A bibliography of resources in home economics available in print, braille, tape, large print, and disc recordings on subjects such as child development and family relations, home management, textiles, etiquette, money management, nutrition and health, diabetes, cookbooks, and general reference material.

Library Services

Public Library Service for the Physically Handicapped documents current efforts being undertaken by Canadian libraries and organizations and sets forth recommendations for improved library services for the handicapped. The five articles included in the pamphlet suggest many projects which might be undertaken by libraries in other countries. For single copies, send $2.00 to the Canadian Library Association, 151 Sparks Street, Ottawa, Ontario, K1p 5E3, Canada.

Periodicals

Human Needs, Vol. 1, No. 1, July 1972, published by the Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare (Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), $3.50 a year ($4.25 foreign), 35 cents per copy. This new monthly federal magazine, with quarterly regional editions, reports on programs and innovations for professionals in all areas of the human services field. Includes a classified listing of career openings.

Vista Reviews. A new quarterly newsletter of the Visually Impaired Secretarial Transcribers Association (Mrs. Natalie Black, Editor, 6415 Granite, Houston, Texas 77018). Free to members; one dollar for non-members. The first issue contains the proceedings of the Panel on Employed Secretaries held at the National Training Institute on Special and Technical Secretarial Occupations for the Blind.

Psychology and Perception

Physical Disability and Human Behavior, by J. W. McDaniel. New York: Pergamon Press, 1969. 231p. $7.95. Reviewed in **Physical Therapy** (American Physical Therapy Association, 1156 Fifteenth Street, N.W., Washington, D.C. 20005), Vol. 52, No. 6, June 1972, pp. 701-2, by Jeanne E. Hughes.

Introductory Statistics for the Behavioral Sciences, by J. Welkowitz, R. Ewen, and J. Cohen. New York: Academic Press, 1971. 271p. $8.50. Reviewed in *Physical Therapy* (see address above), Vol. 52, No. 6, June 1972, p. 702, by Mary Moffroid.

Reprints and Translations

My Religion, by Helen Keller. Swedenborg

Sensi-Quik

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The Sensi-Quik is not sold but is supplied on payment of a six dollar membership fee either directly to anyone who joins the Go-Sees or through agencies serving the blind. Along with the Sensi-Quik cane, the Go-Sees provide the booklet "Touch and an Occasional Tap," available on disc or tape or in print; braille edition only on a loan basis. Persons or agencies interested in the Sensi-Quik cane are invited to contact

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Foundation, Inc. (139 East 23rd Street, New York, New York 10010). A reprint of the late Miss Keller's spiritual reflections, including her thoughts about blindness. Being sold with her favorite book by Emanuel Swedenborg, *Divine Love and Wisdom,* for $1.50 for the two volumes (postpaid).

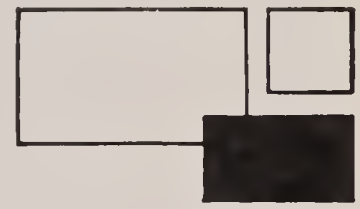
Revised International Manual of Braille Music Notation 1956, translated into Japanese by the Nippon Cultural Centre and Tokujiro Torii. Available from the Nippon Cultural Centre, P.O. Box 63, Kasumigaseki Building, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan. 350p. US $10.00, plus postage. This translation contains not only the whole original English version, but also an additional chapter on Japanese musical instruments—koto (Japanese horizontal harp), samisen (Japanese balalaika), shakuhachi (five-holed bamboo flute), and kokkyu (Chinese four-stringed fiddle).

Welfare

The Social Security Disability Program: An Evaluation Study, by U.S. Social Security Administration, Office of Research and Statistics (Richard T. Smith, Ph.D., and Abraham M. Lilienfeld, M.D.). Superintendent of Documents (U.S. Government Printing Office, Washington, D.C. 20402), 1971, 297p. paperbound. $1.25. DHEW Publication No. SSA-72-11801.

Welfare Won't Work, But What Will? by Bruce Porter. *Saturday Review,* June 3, 1972, pp. 48-52. Although focusing on New York (both the city and the state), the author, urban affairs editor at *Newsweek,* closely analyzes and summarizes the problems of the welfare system and the implications across the nation.

News in Brief



■ The U.S. Office of Education has awarded a $344,669 contract to the Ohio State University Research Foundation for the purpose of establishing and operating a National Center on Educational Media and Materials for the Handicapped. The Center will adapt new educational technology for programs for the handicapped by working closely with the producers of prototype materials, such as Special Educational Instructional Materials Centers, Regional Media Centers for the Deaf, Research and Development Centers, Regional Resource Centers, and other related producers. The 15-month contract was awarded under the Education of the Handicapped Act. The project director is John C. Belland, associate professor of educational communications at Ohio State University.

■ Dr. Gordon K. Klintworth, associate professor of pathology and research associate in ophthalmology at the Duke University Medical Center, Durham, North Carolina, has been awared a $25,000 grant as the second Research to Prevent Blindness, Inc.-Louis B. Mayer Scholar. The grant is support for his promising research into blinding diseases of the cornea and cancer of the eye.

■ Last year, the Veterans Administration opened a Psychiatric Blind Rehabilitation Clinic at its hospital at American Lake, Tacoma, Washington. The purpose of the clinic is to assist veterans who have as two of their characteristics the condition of being legally blind and hospitalized, or confronted with on-going psychiatric problems. The basic program, which is similar to the ones at the Blind Rehabilitation Centers at Hines, Palo Alto, and West Haven, also includes a thorough medical evaluation and a host of ancillary services with special emphasis on group and individual therapy. The Clinic can treat up to 15 veterans at a time.

■ The Mensa Friends Tape Recording Studio will record or duplicate books and other materials on open-reel or cassette tapes on request from blind or physically handicapped persons. The Mensa group provides its services free of charge and asks only that sufficient blank tape or cassettes and one copy of the required material be provided. For a list of titles already available from the group, or for further information, contact the Mensa Friends Tape Recording Studio, P. O. Box 700, Jessup, Maryland 20794.

■ Claude C. Tynar, director of services for the blind, Colorado State Department of Social Services, retired at the end of June after 25 years of involvement with work for the blind in Colorado.

■ The Michigan State Vocational Rehabilitation Service has contracted with the League for the Handicapped-Goodwill Industries, Detroit, to provide evaluation, testing, personal adjustment, training, and vocational placement services to as many as 1400 physically, emotionally, mentally, or socially handicapped persons during fiscal year 1973. The contract totals $583,560.

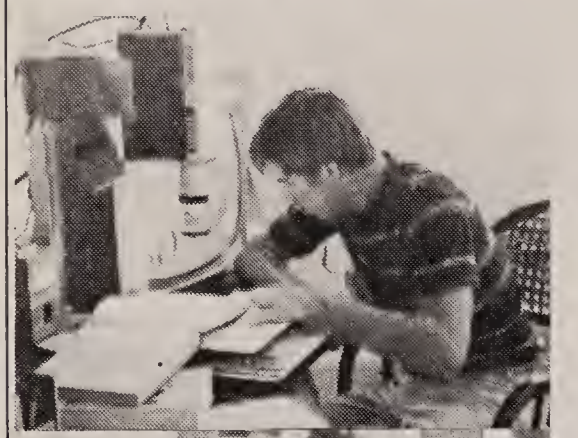
■ The Braille Circulating Library of Richmond, Virginia, has moved from 2823 West Grace Street to 2700 Stuart Avenue. The new location, which has six times the capacity of the old site, will allow the library to expand its services, including its growing tape cassette program.

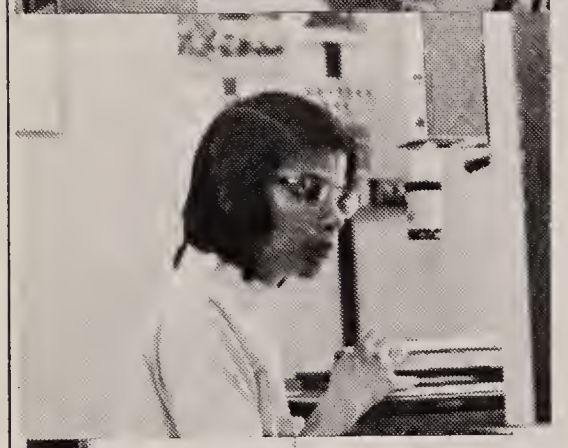
■ The Deutsche Taubblindenwerk is setting up West Germany's first residential school and training center for deaf-blind children in Kirchrode, a suburb of Hanover. The project has been spearheaded by the school director, Karl-Heinz Baaske, and by Hildegard Partzsch, wife of the

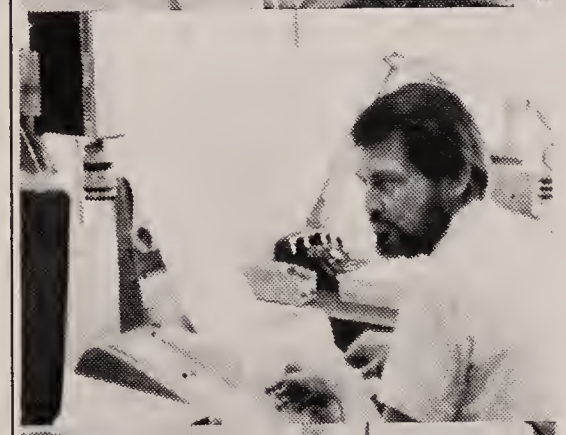
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Lower Saxonian social services minister who helped with the preparations and assumed patronage of the school. The Taubblindenwerk organization is headed by Wilhelm Marhauer, secretary-general, and is supported by the German Association of the Blind, the German Joint Welfare Association, and the Lower Saxony Association of the Blind. It is estimated that there are 600 deaf-blind person in West Germany.

■ The Delta Gamma Foundation is offering summer scholarships for the training of orthoptists and teachers and consultants for visually handicapped children. Applicants are considered on individual merit and the amount of each grant depends on the cost of the specific training involved. The deadline for applications is March 15, 1973. Application blanks and further information may be obtained by writing to Mrs. David Dunbar, 20 Elm Court, Anderson, Indiana 46011.

■ Mrs. Agnes B. Gregory, an expert on questions of policy affecting aged, blind, and disabled persons, has retired from the California State Department of Social Welfare after 37 years of public service.

■ In a new approach to programs for the mentally retarded, the Pennsylvania Department of Public Welfare has allocated $1.9 million for a state-wide network of 101 home-like community facilities. The program offers an alternative to institutions for retarded persons. The residences are to provide normal living accomodations as close to home as possible. Formal training and education programs will take place in community programs such as those sponsored by day care and development centers, special education classes in public schools, and sheltered workshops.

■ Neil Reiser, director of development and public relations for the New York Association for the Blind, New York City, for the past 20 years, died suddenly on June 7 while participating in a regional rehabilitation conference in Kerhonkson, New York.

■ Mrs. Eleanor Grunberg, a school nurse in Caldwell, New Jersey, has begun a personal campaign to eliminate the phrase "color blindness" from the language. Based on her own experience in testing the color vision of students and seeing their potentially harmful psychological reaction when labelled "color *blind*" (they think they are losing their sight), Mrs. Grunberg has sought to replace that term with the medically more accurate term "color deficient." The New Jersey Optometric Association, after Mrs. Grunberg wrote a guest editorial for the *New Jersey Journal of Optometry,* has agreed to make the change and has recommended that the American Optometric Association also do so. Mrs. Grunberg is urging the American Medical Association, the U.S. Department of Health, Education, and Welfare, and the World Health Organization to help make the change as widespread as possible.

■ The Virginia Commission for the Visually Handicapped, Richmond, has been reorganized into three divisions. The change was instituted to group related programs and functions together and to insure better coordination within the larger service delivery system. The new divisions and the deputy directors who head them are Division of Administrative Services—Sidney G. Smith, Division of Rehabilitation Services —Joseph H. Wiggens, and Division of Special Services—Roy J. Ward. William T. Coppage is the director.

■ The Canadian government's Local Initiatives Program has made a second grant to the Crane Memorial Library for blind students at the University of British Columbia to enable the library to continue a project begun in January. This brings the total funds allocated to $48,600. The goal of the library project is to tape record more than 500 books for use by blind and physically handicapped students in Canadian colleges and universities.

■ The National Congress of Organizations of the Physically Handicapped has annouced that through its newly created Living Independence for Everyone Committee, individuals may now contribute funds and manpower directly to the many projects of NCOPH. Formerly, membership was confined to organizations. Further information is available from the chairman of the new committee, Andy Hardt, 2302 B Terrier Court, Apt. 2, Louisville, Kentucky 40218.

■ The National Accreditation Council for Agencies Serving the Blind and Visually Handicapped has announced the accreditation of the following three schools and two agencies for the blind: Department for the Visually Handicapped, Arizona State School for the Deaf and the Blind, Tucson; Community Services for the Blind, Inc., Atlanta; Services for the Blind Branch, Department of Social Services, State of Hawaii; St. Joseph's School for the Blind, Jersey City, New Jersey; and The Governor Morehead School, Raleigh, North Carolina. These organizations have been found to be in compliance with nationally accepted standards of administration and service. They may now be recognized as accredited members of the Council by their use of the NAC seal on material for the field and the general public.

■ According to findings from animal experiments conducted by the National Institute of Environmental Health Sciences, several commercially available laundry products can produce irreversible blindness if accidentally rubbed in the eyes. All of the soap and detergent products tested caused inflammation, but while the eyes affected by soap powder and detergents containing phosphates began to recover within 14 days, those eyes affected by products containing carbonate or metasilicate were permanently damaged. The Food and Drug Administration has taken issue with the Institute's testing procedures, but Dr. David P. Rall, director of the Institute, claims that the FDA objections do not affect the results of the study.

■ "Newspapers for the Blind," a live radio program on which volunteers read entire newspaper articles on the air for blind listeners, is broadcast Monday through Friday mornings from 9:30 to 11 by KQED, an FM station (88.5 MC) in San Francisco. Listeners are invited to call in requests for

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particular articles. The program, which is sponsored by Blind San Franciscans, Inc., is repeated each day from noon to 1:30 if scheduling permits.

■ The Retinitis Pigmentosa Foundation, Inc., has established a confidential national registry of people with this incurable and blinding eye disease. The Foundation has also agreed to assist in establishing a multi-discipline RP laboratory at the Massachusetts Eye and Ear Infirmary, Boston. Further information about these programs is available from the Retinitis Pigmentosa Foundation, 3408 Rolling Road, Baltimore, Maryland 21207.

Appointments

■ The New York Association for the Blind, New York City: **Mary Jane O'Neill,** director of public information; **Dean Unkefer,** director of development; **Michael J. Petrizzi,** administrator of instructional services, Rehabilitation Department.

■ National Society for the Prevention of Blindness, New York City: **Virginia S. Boyce,** executive director.

■ Arkansas Enterprises for the Blind, Little Rock: **Claude N. Shaver,** president, Board of Directors.

■ Center for the Blind, Philadelphia: **Genevieve S. Enelow,** manager of development and solicitations.

■ Virginia Commission for the Visually Handicapped, Richmond: **Audrey A. Davis,** supervisor of rehabilitation teachers; **Dena Wilson,** librarian, State Library for the Blind and Visually Handicapped.

■ Florida Bureau of Blind Services: **Pinckney C. Seale,** administrator of the vocational rehabilitation section, Tallahassee; **Leonard Hoskins,** area supervisor, Daytona Beach.

■ Carroll Rehabilitation Center for the Visually Impaired, Newton, Massachusetts: **David L. McGowan, Ph.D.,** assistant director of rehabilitation services (research).

■ U.S. Department of Health, Education, and Welfare: **Ronald D. Schwartz,** assistant administrator for legislation, Social and Rehabilitation Service.

■ National Council on the Aging, Washington, D.C.: **Jack Ossofsky,** executive director.

■ American Foundation for the Blind: **John G. Garvin,** specialist in governmental relations, Washington, D.C.; **William F. Gallagher,** director, Program Planning Department, New York City.

■ American Foundation for Overseas Blind, New York City: **R. Roy Rusk,** director, Program Department.

Awards

■ U.S. Department of Health, Education, and Welfare, Secretary's Special Citation: **Carl Kupfer, M.D.,** director, National Eye Institute, National Institutes of Health.

■ North Carolina State Commission for the Blind, J. Marshall Parham Awards: **R. L. Clark,** district rehabilitation supervisor, Asheville.

Coming Events

November 1-3 American Association of Workers for the Blind, Middle Atlantic Regional Conference, Washington, D.C.

November 3-4 Audio-Tutorial Congress, Fourth Annual Conference, Columbia, South Carolina.

November 8-13 National Association for the Education of Young Children, Atlanta.

November 12-15 Public Relations Society of America, 25th National Conference, Detroit.

November 12-16 American Public Health Association, Annual Meeting, Atlantic City, New Jersey (including a scientific session, "Visual Perception and Human Development," sponsored by the American Optometric Association on November 15).

November 15-18 National Easter Seal Society for Crippled Children and Adults, Annual Convention, Chicago.

November 16-17 National Council for Homemaker-Home Health Aide Services, Regional Meeting, San Francisco.

November 16-22 Adult Education Association, Minneapolis.

December 1-2 "The Therapeutic Community in Geriatric Care," a workshop conducted by nursing home consultants (Lawrence Lazurus, M.D., Sylvia Schmidt, A.C.S.W., Andrea Lazurus, R.N., Harriet Turner, A.C.S.W., and Margaret Smith, R.N.), San Francisco.

December 14-19 American Academy of Optometry, Annual Meeting, New York City.

December 17-20 Gerontological Society, 25th Annual Scientific Meeting (in conjunction with the American Geriatrics Society), San Juan, Puerto Rico.

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January 17-20 American Optometric Association, National Optometric Conference Week, San Antonio.

January 28-February 3 American Library Association, Midwinter Meeting, Washington, D.C.

February 11-14 Council for Exceptional Children and American Vocational Association, Special Conference on Career Education for Exceptional Children and Youth, New Orleans.

February 25-March 3 American Society of Contemporary Ophthalmology, Annual Meeting, Miami Beach, Florida.

April 22-28 Council for Exceptional Children, 51st Annual International Convention, Dallas.

May 7-10 National Braille Association, National Conference, San Francisco.

May 27-31 National Conference on Social Welfare, 100th Annual Forum, Atlantic City, New Jersey.

May 28-31 American Orthopsychiatric Association, 50th Annual Meeting, New York City.

June 10-14 Special Libraries Association, Pittsburgh.

June 15-18 American Congress of Optometrists, St. Louis.

June 24-30 American Library Association, Annual Convention, Las Vegas.

June 25-29 American Home Economics Association, Atlantic City, New Jersey.

June 26-30 American Optometric Association, 76th Annual Congress, San Francisco.

Guidelines for Contributors to the New Outlook for the Blind

The *New Outlook for the Blind* is a magazine for professionals in service to blind and visually handicapped persons and provides an impartial forum for all views.

The selection of material for publication is made by the editors, after a review by individuals professionally qualified in the subject. This usually requires six to eight weeks. Material already in print or planned for publication elsewhere is not generally considered.

Articles

☐ In general, articles for the *New Outlook* must:

—relate to or have implications for the field of work with blind and visually handicapped persons.

—be factually and statistically accurate, and make a contribution to knowledge and practice in this specialized field. (Authors are responsible for the accuracy of the statements in their articles, and are urged, where possible, to provide any additional supporting documentation which will aid reviewers in their evaluation.)

—be written in acceptable English that can be edited if necessary. (Authors may be asked to rewrite articles before acceptance. If major changes are made by the editors, the manuscript is returned to the author for approval before publication.)

—be 10 to 14 typewritten pages (approximately 2,500 to 3,500 words) in length. (Shorter articles, and longer ones if the subject warrants such treatment, will also be considered.)

Letters to the Editor and Comment

☐ Letters to the editor (350 words or less) should be confined to correction of fact, information, or brief observation on any article or any new development in the field.

A "Comment" (350 to 1,000 words) may be a vehicle to express the author's point of view, to present new information or findings, to react reflectively to a problem or issue in this field, or to respond to material appearing in the *New Outlook*.

With contributions to both of these columns, the editors reserve the right to condense, edit for grammar, and decide on placement in either column.

In view of space limitations and editorial considerations, not all contributions can be published. Editorial decisions are, however, made only after extended reviews have been conducted. Material which focuses on personalities rather than on issues or ideas is not give priority.

Specific Instructions

☐ All material to be considered for publication in the *New Outlook* should be sent to New Outlook for the Blind, 15 west 16th Street, New York, New York 10011.

A covering letter should state that the material is for publication (and whether it has been published previously or is under consideration by other journals) and should include the address of the author to whom correspondence should be sent.

The original manuscript and one copy (carbon or xerographic) should be submitted. (The author should retain a third copy for his files.)

All manuscripts must be typed on a standard typewriter, double-spaced throughout, with adequate margins, on 8½ x 11-inch paper (heavy duty, white, nonerasable bond).

Abstract

☐ The author should prepare and submit with the manuscript a brief abstract, following the attached guide. This abstract will be published with the article and sub-

mitted to the Council of Abstracting Services which provides abstracts for the following journals: *Abstracts for Social Workers, dsh Abstracts, Language and Language Behavior Abstracts, Psychological Abstracts,* and *Sociological Abstracts.* (Articles in the journal are also indexed or abstracted in *Current Contents, Exceptional Child Education Abstracts, Excerpta Medica,* and *Rehabilitation Literature.*) Forms for preparing abstracts are available on request.

References

☐ References in the text to the bibliography (which should be arranged alphabetically by author) should include the last name(s) of the author(s) and the date of publication in parentheses, e.g., (Silverman, 1970), (Terry & Shaffner, 1972).

The style used in the bibliography should follow the forms outlined in the American Psychological Association's *Publication Manual,* section 8, pp. 39-47. (The *Manual* may be purchased for $1.50 from the APA, 1200 Seventeenth Street, N.W., Washington, D.C. 20036.)

Basically, citations for articles in journals should include author, title of article, title of journal, year, volume number, and inclusive page numbers, in the following form:

> Silverman, William A. Prematurity and retrolental fibroplasia. *New Outlook for the Blind,* 1970, **64**, 232-236.

When citing books, the information should include author, title, city, publisher, and year, in the following form:

> Cholden, Louis S. *A psychiatrist works with blindness.* New York: American Foundation for the Blind, 1958.

For other bibliographic forms, see the APA *Publication Manual.*

Footnotes, which should be used as sparingly as possible, should be numbered consecutively in the text and listed at the end of the manuscript.

Tables and Graphs

☐ The use of tables and graphs should be kept to a minimum. Where possible, interpretations of data should be included in the text rather than in tables or graphs. If included, tables should be typewritten on separate sheets of paper. Reference to each table should be made in the text. Line drawings and graphs should be drawn in black ink and be suitable for reproduction. (The APA *Manual* may be followed concerning style for figures, tables, graphs; see pp. 30-39.)

Photographs

☐ Photographs should be labelled on the back with the following information: author, title of article, number of photograph as cited in the text (optional), and a descriptive caption if appropriate. If taken by a professional photographer, indicate the appropriate credit line.

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The Author:

Dr. Yasha Lisenco has been with New York's Jewish Guild for the Blind for 12 years, as an art and craft teacher and as supervisor of the handskills program of the agency's Social Group Work Department. Previously, he has taught congenitally blind adolescents in both a university and a community center. He recently received his doctorate from Columbia University.

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December 1972 Volume 66 Number 10

THE NEW Outlook FOR THE BLIND

What the Future May Hold for the Deaf-Blind Child
Harry J. Spar

Storytelling and the Blind Child
Jean D. Brown

Play and the Intellectual Development of Blind Children
Perla Tait, Ph.D.

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FOR THE BLIND

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Homebound Employment for the Blind and Visually Handicapped in New Jersey

IRVING J. KRUGER

Mr. Kruger is chief of the Vocational Rehabilitation Department, New Jersey Commission for the Blind and Visually Impaired, Newark.

Homebound employment for the handicapped is currently receiving more attention than ever before from those concerned with the vocational rehabilitation of the physically and mentally handicapped, the emotionally ill, and many of the economically deprived or otherwise disadvantaged. The federal-state vocational rehabilitation program was developed primarily to meet the needs of those disabled or disadvantaged individuals whose needs could not be met by existing governmental or voluntary efforts.

E. B. Whitten, in his paper "Rehabilitation—A Service System," flatly asserts that people will have many of the same kind of problems in the years ahead that people have had previously and that the nature and essence of these problems are well known to those who work in rehabilitation. In addition, Mr. Whitten maintains that Americans have accepted the responsibility to help their fellow beings meet their problems and to prepare themselves for living in a work-oriented society.

We in New Jersey believe that rehabilitation must be engineered to meet the human needs and life goals of all impaired and disadvantaged persons and must provide those services which consider the atypical differences of each person who applies for help.

Vocational Groupings

☐ We delineate general vocational groupings of blind and visually handicapped individuals. One group includes those persons who can meet the demands and pressures in competitive employment after having been adequately and appropriately trained and provided with the skills and tools required in a particular work situation. Many of these persons are able to find and hold jobs on their own after adequate training; there is no doubt about their success. This group is generally highly mobile, uses public transportation comfortably, and becomes oriented to a new work environment with a minimum of difficulty.

Sheltered workshops

A second group includes individuals who are limited to working in sheltered workshops as terminal employees after completing a vocational rehabilitation program tailored to their needs. These individuals are truly multiply handicapped by the severity and complexities of their disabling conditions and generally would be eligible for rehabilitation services by reason of either the primary or secondary disability. In many cases this group is isolated vocationally and socially by the nature of the handicap. This group is further handicapped and disadvantaged by either their inability to travel independently or by the rising paucity in the quantity and quality of available public transportation and the concomitant high costs of daily travel.

Home industries

A third group includes those blind or visually handicapped individuals who are unable to meet the demands of competitive employment by reason

of age, secondary disabling condition (cardiac and vascular involvements, arthritic infirmities, severe diabetes, orthopedic or neurological conditions, etc.), family responsibilities, lack of transportation, or the inability to use public conveyances or to travel independently, but who otherwise have selective capacities to work and produce at an acceptable level in a home setting, subject of course to the limitations previously described. A review of individuals who are currently engaged in homebound employment would reveal such work as public stenographers, sales representatives, insurance representatives, producers of ceramics and woodcrafts, college and high school tutors, masseurs, industrial sewing machine operators, knitters and crocheters, and various other types of workers. Our agency's policy offers equal opportunity on an impartial basis to all who apply for vocational rehabilitation services no matter how, keeping in mind that disabled and nondisabled people are not alike nor are they equal in motivation, intellect, capacity, or ability. It is obvious, therefore, that a vocational rehabilitation plan must be designed to meet an individual's talent and needs.

Examples

☐ The New Jersey Commission for the Blind and Visually Impaired has operated a homebound employment program for more than 15 years. An early recognition of individual differences and of the levels or abilities of blind and visually handicapped clients led to the development of a multi-program approach engineered to bring rehabilitation benefits to large numbers of blind or homebound individuals. (This program became known as "Home Industries.")

N.J. Homebound Employment Program

The Craftshop Program, designed to meet the needs of the very limited client, can perhaps be classified as a "therapy" approach, in that it helps a blind individual in meeting the problem of having something to do to "pass the time of day." Inactivity and boredom are more intensely difficult to combat for a blind person who is homebound. The clients in this group working under a minimum amount of pressure produce approximately 40 different hand-made articles including high grade leather goods, artistic woodwork, ceramics, and knitted and crocheted products. At the present time approximately 100 clients are active in this program. However, there has been a steady lessening of public interest in handcrafted articles and consequently this program has faced shrinking sales in recent years. In 1970, total sales through the New Jersey Commission for the Blind and Visually Impaired Home Industries Craft Program amounted to $110,000. This gave employment to 130 consigners on the average with earnings of $52,000.

Craftshop program

☐ The blind and visually handicapped clients participating in our Wholesale Products Program are trained, highly skilled, and motivated individuals who are definitely production-oriented. These clients operate factory-type power sewing machines in their home settings. The items produced are under a "Blind Made Label" and are sold to the New York Lighthouse, Columbia Lighthouse, and other distributor groups. Raw materials are delivered to the clients' homes and are picked up on notice of completion. The finished articles are brought to our Home Industries Center, inspected, packaged, and then sold to distributors. Surveys show that our pay-rate structure far ex-

Wholesale Products Program

ceeds that paid by other agencies for the blind in our region. Our ability to produce in this program greatly surpasses the demand of the distributors and, consequently, there has been a curtailment of production in order to prevent over-warehousing of inventory. Regulations preclude us from carrying more than a three-month inventory at any time.

Recent developments

The basic goal in the Wholesale Program is to broaden the scope of sales outlets, including possible sales to retail store chains, in addition to training larger numbers of home-bound individuals who would otherwise be deprived of the opportunity for developing their income-producing work skills. Recently, after much effort, Home Industries secured a first contract from a national supermarket chain for 1,200 dozen each of two articles made by blind people in their homes. In the Wholesale Products Program we have a special unit producing a single child garment (boy's lined trousers), which is sold on the open competitive market. Eight to ten highly skilled clients produced 4,288 dozen items which returned slightly more than $20,000 to gross sales. In this unit, each client is trained to perform a single task and as a member of an "assembly-line team" is responsible for above-average quality and quantity production. An additional factor in the success of this program is being able to purchase the raw materials at the open-market "best-lowest" price, which greatly influences the selling price. Previously, such garments had been imported from Japan and other foreign countries because American manufacturers could no longer compete with the price of the imports; as a result, articles of inferior quality and workmanship have flooded our country.

Chair-caning and Rush-seating

☐ Another agency program operated for homebound clients is the chair-caning and rush-seating program. This select group of skilled homebound individuals who have received intensive training turn out high quality workmanship in the caning, repair, and refinishing of chairs. Currently we have established drop-off points in seven central areas (covering all sections of our state) where chairs can be received and estimates given. The chairs are brought to the home of the client and returned to the drop-off point when the work has been completed. (The Commission provides the pick-up and delivery service.) Projections indicate that approximately 35 to 45 caners throughout New Jersey could service approximately 200 to 300 chairs per month. At the present time there seems to be a steady increase in the number of requests for this service.

In addition to the foregoing programs, Home Industries supplies materials on request needed by any blind client to produce articles either for personal use or for resale. The unit maintains a large inventory of knitting materials, leather goods, and other raw materials, as well as patterns and tools.

Complex Situation

☐ It is apparent that these are all high-cost programs requiring substantial financial support in order to underwrite the large expenditures necessary to continue providing services to this segment of our clientele. The logistics involved in raw material and finished products distribution and pick-up, inspection and packaging, and warehousing all contribute to the high costs involved. At this point, I must caution those formulating ideas for setting up

a home-bound program to become soberly aware of the inherent problems and high costs required to operate such a program. A superficial study and an attempt to duplicate a program such as ours in New Jersey without a full recognition of the need for long range fiscal insurance can only lead to disaster. Society is neither willing nor ready at this point in time to underwrite a program pitched low to serve homebound multiply handicapped persons rather than a program pitched to serve the homebound of the highest dimensions with success practically guaranteed.

Conclusions

☐ The New Jersey Commission for the Blind and Visually Impaired is profoundly concerned about the steady increase in numbers of homebound blind clients who can benefit from vocational rehabilitation services and accordingly has made representations to loosen the restraints imposed by the present state homework regulations. We are in agreement with most of the proponents that a change in the state homework laws and appropriate public relations could do much to provide meaningful activity and income to substantial numbers of homebound blind individuals throughout the nation and, in particular, that group of blind people who are indeed homebound by reason of multiple handicaps. How to solve the problems of this population demands the best that is in us and we must give this complex issue our best efforts. An exciting challenge is before us and it will take all the resources and energies of all concerned with the rehabilitation of the blind to meet the problems of the homebound person.

The Recorded Edition of the New Outlook

Because of the expansion of the print edition of the *New Outlook for the Blind* to 48 pages (beginning with the September 1972 issue), the editors have been encountering difficulties in including all of the articles, fillers, and back matter of the journal in the recorded edition. If this problem persists, it may be necessary to choose one of the following alternatives: change from a disc to a flexible record (soundsheet), to open-reel tape, or to cassettes; or reduce the size of the print edition to 40 pages. All of these alternatives are being investigated thoroughly, but the editors would also like to hear from the readers. What are your preferences? Would you please rank the alternatives according to first, second, third, and fourth choices? Send your comments to the *New Outlook for the Blind*, 15 West 16th Street, New York, New York 10011.

What the Future May Hold for the Deaf-Blind Child

HARRY J. SPAR

Mr. Spar is associate director of the National Center for Deaf-Blind Youths and Adults, New Hyde Park, New York.

Early Course of Work With Deaf-Blind Children

Services for the deaf-blind in this country began in 1837 when seven-year-old Laura Bridgman, who had been practically blind and totally deaf since the age of two, was admitted to the Perkins Institution and Massachusetts School for the Blind, Boston (now the Perkins School for the Blind, Watertown, Massachusetts). The fact that it could be demonstrated that this child was educable and was able to learn to read, to communicate, and to develop intellectually greatly impressed many educators and writers of her time.

Laura's success led to the admission of other deaf-blind children to Perkins. The late Helen Keller, who had become deaf and blind as a result of an illness contracted at 18 months of age, moved to Perkins in 1888, at the age of eight, after her mother learned of Laura Bridgman and Perkins in "American Notes" by Charles Dickens. Helen had been trained and tutored at her home for about two years prior to her residing at Perkins by Anne Sullivan, a graduate of Perkins, whom Helen always affectionately referred to as "Teacher."

☐ Several schools for the blind in the United States operated special departments for deaf-blind children. Perhaps because these efforts were inspired by the achievements of exceptionally capable deaf-blind individuals and, perhaps too, because academic excellence has been the traditional objective of educational institutions, the education of deaf-blind children, until recent years, tended to be reserved for the most promising deaf-blind children and to be focused on the development of erudition rather than on practical skills of self-care, social intercourse, and work.

Services for deaf-blind adults

With the development of rehabilitation services for deaf-blind adults, educators began to recognize that successful living as a deaf-blind person need not be limited to the intellectually gifted deaf-blind individual and, in fact, does not necessarily correlate with academic achievement. The abilities to take care of one's personal needs, to get along with others, to perform work tasks, to maintain acceptable work discipline, etc., can enable a deaf-blind person to be a participating member of his family, to engage in remunerative employment, and to accomplish many of the objectives of his non-handicapped peers—even if he is not able to perform academic activities above a very basic level. The recognition of this led to the realization that the available educational programs for deaf-blind children were inappropriate for the needs of many of these children and inadequate for the many deaf-blind children who might benefit from properly designed and properly administered educational programs. This realization was strengthened by the increase in

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the number of multiply handicapped deaf-blind children that resulted, primarily, from the 1964-65 rubella epidemic.

Federal involvement

In January 1968, Title VI of the Elementary and Secondary Education Act was amended by Public Law 90-247, Part C, later (April 1970) becoming Part C (Sec. 622) of Public Law 91-230, Title VI, the "Education of the Handicapped Act." Under this act, ten regional centers are operated by the Bureau of Education for the Handicapped, Division of Educational Services, U.S. Office of Education to serve deaf-blind children throughout the United States.

Deafness and Blindness

☐ The handicapping effects of deafness lie primarily in the area of communication; and the handicapping effects of blindness lie primarily in the area of physical orientation and independent mobility. This is not meant to suggest that deafness presents no problem in physical orientation and independent mobility nor that blindness presents no problem in communication. Facility of functioning in either of these two areas is significantly affected by both the sense of hearing and the sense of sight. However, as these constitute the primary senses involved in the process of learning, a deficit in either of them dictates an extraordinary use of the other. Thus, the blind child who can hear draws heavily on his ability to learn aurally and to communicate orally. This places him at a disadvantage in relating to the deaf child who can see and who depends heavily on his ability to learn visually, to communicate visually, and to move about freely. Consequently, the child who has major deficits in both hearing and seeing encounters problems in developing effective relationships with either blind children who can hear or deaf children who can see. However, the hearing blind child experiences problems in physical orientation and mobility which are comparable to those experienced by the deaf-blind child. This serves to provide more opportunity and more time for him to find a means of communicating with any deaf-blind child in a group in which he may be a member and to develop better empathy with him than the deaf child who can see and who tends to isolate himself from any deaf-blind child in his group by both his facility in moving about and his inability to establish reciprocal visual contact.

Double handicap

Role of services for the blind

These conditions undoubtedly explain the fact that, with few exceptions, deaf-blind children have been educated under specialized programs in schools for the blind rather than in schools for the deaf. These same conditions have tended to make it easier for deaf-blind adults to fit into rehabilitation programs for the blind than into programs for the deaf. Fortunately, in recent years, improved understanding of ways of maximizing the use of extremely limited sight and hearing are leading to greater acceptance of deaf-blind children in educational programs for the deaf and are helping to expand resources for serving these children. Programs for the mentally retarded, the cerebral palsied, and other severely handicapped children are also beginning to serve deaf-blind children.

With the development of rehabilitation services for deaf adults, there seems to be a growing potential for serving deaf-blind adults in this field. The greater the number of areas of specialized service in which deaf-

blind children and adults can be accepted and the better the skills and knowledge of these areas can be culled in the interest of meeting their special needs, the greater and the more effective will be the opportunities for deaf-blind persons to extricate themselves from dependency and loneliness and to enter the mainstream of satisfying human endeavor.

Adult Services Began in 1918

☐ Services for deaf-blind adults in this country began with the admission of a deaf-blind man to the sheltered workshop of the Industrial Home for the Blind in 1918. Employment of deaf-blind persons in the workshop has continued without interruption since that time.

1958 rehabilitation study

In 1958, the IHB published a report on a two-year study of rehabilitation of deaf-blind persons, conducted with the help of a grant from the Office of Vocational Rehabilitation, which generated a great deal of interest in and enthusiasm about the possibilities of rehabilitating deaf-blind persons. Prior to the publication of that report, there had been a few islands of interest throughout the country in the rehabilitation of deaf-blind persons; but these were short-lived because, generally, they were motivated by desires to meet the needs of particular deaf-blind individuals and failed to reach out to find and serve other deaf-blind persons in their communities.

Research and demonstration project

In 1962, with the support of the Social and Rehabilitation Service, the IHB embarked on a research and demonstration project designed to develop rehabilitation services for deaf-blind persons, primarily in the northeastern and mid-Atlantic regions of the United States. While the main initiatives of this project were focused in these regions, its services were extended, on request, to several other parts of the country.

Call for a national center

It was originally thought that three or four regional rehabilitation programs for the deaf-blind might grow out of the research and demonstration project; but it was concluded that, because of the sparse distribution of deaf-blind adults and the problems of case-finding which this and other conditions presented, deaf-blind adults could best be served—at least during the foreseeable future—by the operation of a single, well-staffed, specially designed national rehabilitation and research agency.

The National Center

☐ The 1967 amendments to the Vocational Rehabilitation Act authorized the establishment and operation of the National Center for Deaf-Blind Youths and Adults. After reviewing proposals submitted by interested organizations, the Social and Rehabilitation Service selected the Industrial Home for the Blind to operate the National Center under an agreement with the U.S. Department of Health, Education, and Welfare. An interim agreement for operating the Center was signed on June 24, 1969, and this was succeeded, on November 12, 1969, by the definitive agreement under which the National Center is now operating.

Facilities and services

Permanent facilities for the National Center at Sands Point, Long Island, New York, have been designed and, if the funds required to construct, equip, and staff these facilities are appropriated within the next few months, they should be ready for occupancy early in 1975. As presently designed, the Center will contain a number of innovative features that should make it possible to conduct diagnostic, training, research, and community education pro-

grams which will make use of the best skills and knowledge available in the fields of health, safety, and rehabilitation services for deaf-blind youths and adults. It will be able to serve 50 or more deaf-blind individuals in residence at any one time and to extend services to hundreds of deaf-blind individuals in their home communities through the Center's regional offices which work in conjunction with local agencies. Specialized personnel who will be based at the Center's headquarters in Sands Point will be available to provide consultation and demonstration in the field as needed. Both long-term and short-term courses in professional and para-professional training for new or prospective workers in service to deaf-blind youths and adults will be offered by the National Center in cooperation with affiliated colleges and universities. Through such affiliations, orientation information will be developed for inclusion in courses offered to social workers, public health nurses, and other professional workers who are likely to find deaf-blind youths and adults in the course of their work and who may be in a position to refer such individuals for service or to serve them directly in cooperation with appropriate agencies and individuals.

Training of workers

At present, the National Center operates three regional offices—in California, Illinois, and Georgia—and conducts its main program in limited, temporary facilities located at 105 Fifth Avenue, New Hyde Park, New York 11040. In these facilities, supplemented by the nearby rehabilitation center for blind persons of the parent agency and by use of space in two residences of the parent agency, the National Center is able to provide a program of comprehensive rehabilitation evaluation and training for 16 to 18 deaf-blind youths and adults at any one time.

Three regional offices

☐ In the agreement with the Department of Health, Education, and Welfare under which the National Center operates, deaf-blindness is seen as "substantial visual and hearing losses such that the combination of the two causes extreme difficulty in learning." This results in the inclusion of a great many youths and adults who enjoy a fair measure of useful hearing and/or sight in the clientele to be served by the Center and who can be served in their home communities by local agencies in cooperation with the National Center. In view of this and, particularly, in view of the fact that the National Center can provide comprehensive rehabilitation evaluation and training to only a small number of deaf-blind youths and adults at its temporary facilities, the Center employs a restrictive definition of deaf-blindness to give priority in eligibility for admission to the Center. This definition includes the widely accepted definition of "blind"—commonly referred to as the legal definition because of its inclusion in a number of laws and governmental regulations ("central visual acuity of 20/200 or less in the better eye, with correcting glasses, or central visual acuity of more than 20/200 if there is a field defect such that the peripheral field has been contracted to an extent that the widest diameter of visual field subtends an angular distance no greater than 20 degrees")—and defines "deaf" as "a chronic impairment of hearing so severe that most speech cannot be understood, even with optimum amplification."

Eligibility

Priority to multiply handicapped persons

In addition, special priority is given to applicants who not only satisfy the condition of the foregoing restrictive definition but who are also further handicapped by other disabling conditions—nerve damage, extreme educational deprivation, etc. These applicants are required to be reasonably ambulatory, able to maintain acceptable standards of personal hygiene, and capable of responding to simple directions conveyed through either demonstration or any other practical form of communication.

First Three Years

☐ Despite the severity of the handicaps of the deaf-blind youths and adults who have been served during the first three years of the operation of the National Center and despite the fact that much time was devoted during this period in equipping the temporary facilities, training staff, etc., we believe that the present status of the 38 deaf-blind youths and adults who finished their training at the Center during this period provides a substantial basis for looking to the future with reassurance and hope.

Of the 38 deaf-blind youths and adults who finished their training at the National Center during the past three years, seven are working in fully competitive employment, 16 are in sheltered workshops, three are functioning as homemakers, one is engaged in a home industry, one is in school, one is in a medical institute (continuing rehabilitation), two are ill, one is convalescing, one is in a nursing home, one is in hospital, one is deceased, one is at home (requiring further planning), and two are awaiting employment.

Considerations for the superior person

In our concern for the most severely handicapped deaf-blind youths and adults, we must be careful not to design our rehabilitation services or to set our training objectives in such a way as to deny the intellectually superior or talented youth or adult who is deaf-blind the kind of training that he will accept and use to his advantage. A number of deaf-blind adults are functioning successfully as writers, administrators, computer programmers, and in a variety of other challenging fields in which they are making important contributions.

New careers

We are able to offer meaningful assistance to some gifted deaf-blind persons; but we expect to expand our capacity in this area through further experience, further research, and effective use of the facilities we hope to construct within the next two years or so. We are looking—and we shall continue to look—to deaf-blind persons themselves for assistance in broadening and improving our rehabilitation techniques. While the success of any deaf-blind individual may provide clues that might be helpful to others, we must be careful not to lead a deaf-blind person into any career mainly because another deaf-blind person has been successful in it. We must make our programs as imaginative, as flexible, as diversified, and as practical as we possibly can. This cannot be accomplished through pursuing preconceptions or ignoring those insights into deaf-blindness which, often, only deaf-blind persons themselves can acquire.

The Rubella Epidemic

☐ The rubella epidemic of 1964-65 has left in its wake a large number of deaf-blind children with very severe additional handicaps. Many of these children, undoubtedly, will require services very different from those that are now available. However, their needs have not yet been adequately assessed;

and, in our concern for their future welfare, we must be careful not to be panicked into seeking solutions to their problems through the massive use of brick and mortar. Unhappily, a high proportion of the children whose deaf-blindedness was caused by rubella will be found to be so badly damaged as to require permanent custodial care. Many of them have already been placed in hospitals with no realistic prospect of ever being able to return to their communities. On the other hand, the possibility of rehabilitating even very severely handicapped deaf-blind persons that has been demonstrated at the National Center suggests that many of those whose deaf-blindness was caused by rubella will be capable of working in the kind of adapted protective employment that good sheltered workshops or work-activity centers can provide.

Residential work-activity centers

It seems likely that a considerable number of the children whose deaf-blindness was caused by rubella will be found to be incapable of developing abilities adequate enough to enable them to make good use of sheltered workshops or work-activity centers as they are presently constituted and, yet, will not be so severely disabled as to require permanent custodial care. A special kind of residential work-activity center with provision for ongoing rehabilitation maintenance may be required to best serve these deaf-blind persons. For them, it may not be feasible to provide rehabilitation as a one-time or as an occasionally repeated service. In order to maintain their rehabilitation at a meaningful level, it may be necessary to continually and indefinitely reinforce their training in a number of essential areas of functioning. Some of them may be able to perform a small amount of productive work; but, in the main, the objective for them will be to sustain minimum skills in self-care, ability to make wholesome use of leisure time, and acceptable ability to function in a communal pattern of living. The cost of maintaining severely disabled deaf-blind persons in such a setting would probably be no greater than the cost of providing custodial care for them in a hospital setting; but, beyond this, the humaneness of providing severely disabled persons with wholesome activity, diversion, and a degree of independence consistent with their capacities holds values that cannot be measured in monetary terms.

Objectives

Facilities

☐ The next several years should indicate whether the type of program suggested above might be helpful and whether construction for housing this type of program will be required. It is possible that certain existing residential facilities might become surplus within the next several years and might prove to be suitable for housing residential rehabilitation maintenance programs for severely disabled deaf-blind persons.

Residential schools

During the 1930's there was felt to be a surplus of residential schools for the blind and there was a good deal of discussion of the advisability of operating such schools on a regional instead of on a largely statewide basis. Retrolental fibroplasia (RLF), which was responsible for a very high incidence of blindness in infants in the late 1940's and early 1950's, contraindicated the advisability, generally, of closing residential schools for the blind, despite the fact that numerous programs were developed for educating many

blind children in local public and private schools for seeing children. The continuing operation of these latter programs together with the fact that RLF was brought under control about 18 years ago may result in the availability, within the next several years, of residential facilities that might prove adaptable for housing the type of program we have in mind for severely disabled deaf-blind persons.

Retinitis Pigmentosa

☐ Finally, in talking about what the future may hold for the deaf-blind, a comment must be made about retinitis pigmentosa (RP), one of the major causes of deaf-blindness. This is a condition which frequently manifests itself in congenital deafness and a gradual constricting of the visual field during childhood and early adulthood, although, in some cases, vision within a highly constricted field may persist into middle age and beyond. The primary eye condition of 44 percent of the deaf-blind persons served at the National Center was diagnosed as RP; and the eye condition of 47.9 percent of 171 deaf-blind persons who constituted the main caseload of the Research and Demonstration Project conducted by the IHB immediately preceding the inauguration of the National Center was diagnosed as RP.

Diagnosis

The presence of RP can generally be detected in early childhood through a careful ophthalmological examination; but, because of the manner in which this condition develops, the individual suffering from it may not recognize and accept its presence until late adolescence or later. In view of this, we cannot stress too strongly the importance of providing a comprehensive ophthalmological examination early and repeatedly to every student of a school for the deaf and to every young deaf person wherever he may be reached.

Understanding his condition

The detection of a progressive eye condition in an individual does not suggest that he be trained to disregard his residual vision and to function as though he were blind. Whatever vision remains should be used as fully as possible; but he should be helped to understand the nature of his eye condition and he should not be trained for occupations—printing, sign painting, etc.—in which vision will be required. Understanding his eye condition entails not only appreciating the implications of a progressive condition but also understanding precisely where in his visual field he has no vision. Since individuals who suffer from constricted visual fields can see quite well within their constricted field, it is often very difficult for them to remain aware of the fact that step-downs, obstacles, and other dangers which are highly visible when they are looking at them are entirely invisible to them when they lie outside of their constricted field of vision. This fact, it can be assumed, accounts for many of the seemingly inexplicable falls and bumps suffered by persons with constricted fields of vision—particularly before the constriction becomes marked.

Summary

☐ The development of special education and rehabilitation for deaf-blind persons is still many years behind the stage reached for other handicapped groups. Much of the development has taken place within the past several years. However, enough has already been accomplished to hold good promise for the years ahead; and while we cannot be complacent about expanded

(Continued on page 360.)

Storytelling and the Blind Child

JEAN D. BROWN

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Storytelling, mankind's oldest form of entertainment, still survives in this modern world because of those few adults, teachers, and librarians dedicated to the teaching and training of today's children.

In a recent survey conducted by the Carnegie Library of Pittsburgh, Regional Library for the Blind and Physically Handicapped, on storytelling to visually and physically disabled children, 160 questionnaires were mailed to librarians, teachers, and specialists who work with such children, in order to explore their thoughts on the use of storytelling as a tool for aiding a child's mental development. Seventy-two questionnaires (45 percent) were returned, all responding unequivocally that storytelling is indeed an effective aid when properly utilized.

Listening to Stories

☐ Many of us have sat in our chairs, or on the edges of them, listening and watching a parent, teacher, or friend recite a story. We eagerly watched the facial expressions, the eyes, brow, and forehead, which reflected and projected inner emotions as the teller set the tone of the story or described a character or incident. Perhaps we saw the teller motion with his hands and arms and use other body gestures to depict size, shape, or even relay emotions through mime as the tale was spun. We must admit that we not only listened, we also watched!

When telling stories to blind children a veteran storyteller soon realizes that his voice is the only instrument upon which he can rely to convey moods and tones and to describe actions and incidents as they unfold. He realizes that his narration must not only appeal to the aural sense, but also to the other senses—touch, taste, smell, and general awareness.

Differences in reactions

The teller, facing blind children for the first time, should thoroughly prepare himself not to receive the satisfying responses one expects when appearing before sighted children. Blind children have response characteristics all their own, some of which are quite uninhibited. After about two programs, one will adjust to their listening characteristics.

Can be very disconcerting

To look into the faces of a blind audience while storytelling may not always provide clues as to whether the child is actually enjoying the story, although in actuality he may be thoroughly engrossed by the tale. My first encounter with such an audience made me feel ill at ease. Even though I was well prepared, I was conditioned to the responses of a sighted audience, with the usual facial expressions, the bright flashing eyes, and alert faces and bodies turned in my direction while listening to every word. Instead, some blind children were facing me, but some were not; most, however, seemed to be completely relaxed. Those not facing me sat sideways with their ears directed toward me listening intently to the story. Some wore slight smiles (depend-

ing upon story incidents), and some, to my surprise, spoke aloud urging the hero to run or to beware of impending dangers. As a person I began to feel dehumanized. I felt as if I were a radio, or a tape recording. Then a child asked, "What is a wolf?" I did as no machine could ever do, I stopped the story, answered her quickly, and continued on until another child questioned me about the meaning of a word; again I stopped and answered concisely. As the tale progressed and became more exciting their breathing became very heavy with anticipation.

After the story ended, the children were eager, on their own accord, to discuss incidents and ask more questions. This discussion period gave me the satisfaction of knowing that my storytelling was successful and enjoyable. To those who may feel hesitant about storytelling to blind children, therefore, I would like to offer a few fundamental suggestions.

Know Your Audience

☐ 1. Learning about your audience beforehand is extremely important for story program preparation. Find out the average chronological and mental ages of the group. Inquire about home and school interests. Inquire about forthcoming units in the curriculum and about scheduled field trips. Ascertain average attention span. All such information can be supplied by the teacher. Thus prepared, the next step is to develop a theme or themes and to select books accordingly.

Relating stories to curriculum

2. In the primary grades the curriculum generally deals with such areas as basic concepts, moral concepts, holidays, weather, seasons, foreign countries, animals, rural life, city life, etc. After the theme is chosen from an appropriate area, the next step is the selection of suitable books that will allow for its full development. For example, books on the theme of rain might include *Umbrella* (Yashima), *The Quarreling Book* (Zolotow), or *Noah's Ark* (Palazzo).

Many guides and lists of stories are available at public libraries and children's librarians can also suggest good stories. The stories selected should be checked to see if they maintain their impact and meaning without the aid of illustrations.

Characteristics of good stories

Look for good descriptive narrations and strong explicit details. If a story relies solely upon its illustrative content, it should not be considered unless the teller feels strongly that the book has merit, and that he can ad-lib and verbalize the illustrations accurately and without interfering with or spoiling the author's style and tone.

Violence

Many storytellers enjoy telling the old favorites (the Three Little Pigs, the Tortoise and the Hare, and countless others) that are good, exciting, fun stories which deal with moral concepts. This storyteller has been questioned numerous times by adults, of course, about "all that blood and violence in folk tales." A growing child cannot be shielded from all the evils that have been and are being perpetuated, exposed as they are to violence daily via television and newspapers. After they are taught to read, they are then taught the histories of many countries, and all of these have been written in violence and tragedy. When they advance to higher learning they are introduced to classic literature, and this too is filled with tragedy and heartbreak. Folk

tales give children the chance to explore powerful emotions—anticipation, fear, relief, excitement, jubilation. I feel that folklore should be considered a functional introduction to the future literature that children and adults are expected to read in order to become "well read" persons. It can help soften the impact. It also presents an excellent example of what fantasy truly is, as compared to realism.

Memorizing Stories

☐ 3. Read the material to be presented several times aloud and commit it to memory. One should not, however, memorize stories verbatim unless they are by Andersen, Kipling, etc. Outline the key incidents and review them constantly. Then practice reciting the story aloud. If a tape recorder is available, use it by all means; listening to your playback recording will aid you in self-criticism and the correction of faults. All of this preparation is essential for success, for if the storyteller is interrupted, the thread of the story can be picked up and continued without wasting precious time.

Timing stories is also a good practice, especially when dealing with a handicapped audience. Flexibility may have to be exercised in order to shorten a story for special circumstances, e.g., a shortened class period, a child who must be excused from class, etc.

The Voice

☐ 4. While an agreeable sounding voice is desirable for all storytellers, it is especially needed for those working with the blind. The storyteller must rely solely upon his voice to convey all of the story. The teller should never feel inhibited when it comes to making voice changes or imitating the calls of domesticated or wild animals and birds. The children also enjoy hearing a change of voice for different characters represented in a given story when done effectively. Make use of inflectionary and modulatory voice tones to keep from sounding monotonous. The teller should keep in mind that blind children have access to talking books and other recorded media. They are used to good storytellers, so preparation should be thorough. They are also able to detect a storyteller's own interest in presenting the tale from the voice itself. If you are tired or bored with the story, the children will readily pick this up and react accordingly.

Participation

5. While blind children, like sighted ones, enjoy participation in a story session, use of this technique depends upon the individual storyteller, the selected story, and whether or not participation is desired. To some extent it should be encouraged, for it can become great fun for both the listener and the teller. During a telling of the Three Little Pigs, for instance, the children nearly blew me out of my chair during the "huff . . . puff" scene. They had no misconception as to where I was seated.

Use of realia

Realia (real life objects) may be used to enhance a program. These aids, when properly presented, can take the place of illustrations. Stuffed animal and bird exhibits may be borrowed on free loan from the educational departments of most museums for a period of one to two weeks. In some rural areas, the local taxidermist may be cooperative about loaning exhibits. 3M microfragrance labels pasted on cards and passed to each child to scratch and sniff will appeal to the olfactory senses and could be used for such stories as Hansel and Gretel.

Summary

☐ To recapitulate, remember when selecting stories that it is wise to remain within the blind child's experiential realm. These children frequently have no concept of size, shape, or texture. Some teachers maintain that they are never fully assured as to whether or not a child has perceived correct dimensions. Therefore, preparation of story themes in advance (and after consultation with teachers to insure the particular concept involved has been previously taught or explained) will save valuable time by eliminating many questions and will make the story more effective.

Adults need to constantly remember that this old world is new to children, and what experienced adults may take for granted may not be within the realm of the child, especially a blind child, e.g., a trip to a farm or circus. Stories and books are highly valuable aids for they help fill in the gaps of a child's learning experience. Storytellers play the important role of catalyst in bringing books and children together.

Some Stories Enjoyed by Blind Children

Ali Baba and the Forty Thieves.
Angelo the Naughty One, by Helen Garrett.
Bremen Town Musicians.
Capt'n Dow and the Hole in the Doughnut, by Henderson LeGrande.
Cinderella.
Circus Baby, by Maud Petersham.
Country Bunny and the Little Gold Shoes, by Marjorie Flack.
The Five Chinese Brothers, by C. H. Bishop.
The Five Hundred Hats of Bartholomew Cubbins, by T. S. Geisel (Dr. Seuss).
Fredrick, by Leo Lionni.
The Friendly Beast, by Laura Baker.
Hansel and Gretel.
Jack and the Three Sillies, by Richard Chase.
John Henry: An American Legend, by E. J. Keats.
The King, the Mice and the Cheese, by Nancy Gurney.
Little Engine That Could, by Watty Piper.
Little Red Riding Hood.
Mike Mulligan and His Steam Shovel, by V. L. Burton.
Mike's House, by Julia Sauer.
Millions of Cats, by Wanda Gag.
Mollie Whuppie.
The Monkey and the Crocodile, by Paul Galdone.
Night Before Christmas, by C. C. Moore.
Noah's Ark, by Tony Palazzo.
Old Woman and Her Pig.
One Eye, Two Eyes, and Three Eyes.
Prince Bertram the Bad, by Robert Lobel.
Shoemaker and the Elves.
Slip, Slop, Gobble!
Stolen Turnips.
Toads and Diamonds.

Three Billy Goats Gruff.
Umbrella, by Taro Yashima.
Wait for William, by Marjorie Flack.
When the Root Children Wake Up, by Helen D. Fish.
Where's Prancer? by Syd Hoff.
Wolf and the Seven Kids.

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What the Future May Hold for the Deaf-Blind Child—*Continued from page 355.*

and improved opportunities now available for deaf-blind persons, we can take encouragement from the fact that, considering what has been achieved and what can be expected in the near future, a deaf-blind child today enjoys a reasonably good prospect for finding an acceptable place for himself in the world when he reaches adulthood. With continuing faith, hard work, and patience we may hope that, within our lifetime, most deaf-blind children will enjoy opportunities and choices for their future not too greatly different from those enjoyed by their nonhandicapped peers.

Play and the Intellectual Development of Blind Children

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Although the term "play" is a common word used daily, and numerous theories concerning play exist, the term itself still has not been defined satisfactorily to adequately cover all of its complex aspects. Johan Huizinga (1950), in his classic work on play and culture, states that "play is a function of the living, but is not susceptible of exact definition either logically, biologically, or aesthetically" (p. 7). Lowrey (1955) states that "play . . . is not exactly the simplest word in our language. The definitions and synonyms take up two columns in Webster's Unabridged Dictionary" (p. 574). Again, while play is a significant form of behavior, "it is nevertheless a phenomenon which puzzles and confounds many who study it, as evidenced by a general inability to define it" (Sadler, 1966, p. 237). It has even been suggested by Berlyne (1968) that play is no longer a useful category in psychology and it might be well to give it up since it seems that ignorance is the main factor that holds it together. Slobin (1964), in his discussion of play in childhood, does not attempt to define the word but does not feel this to be detrimental to the discussion of the behavior. As he explains, "we are unable to define precisely most of the words we use in everyday speech, yet this in no way interferes with our ability to use them consistently" (p. 61). Mason (1965) believes that "it is the peculiar quality of this behavior that it can usually be recognized and labeled as play" (p. 528). And Sutton-Smith (1967, p. 98) feels it is best to persist with a general category which most believe they are able to observe even if the definition is inadequate.

General Definition of Play

☐ In view of the diversity involved in defining this word, "play" and its influence on the intellectual development of blind children will be considered for purposes of this presentation in its most general, all-encompassing meaning, including within its sphere the terms "exploratory behavior," "curiosity," and similar terms. The literature supports this broad use of the term "play." Sutton-Smith (1967) states that in current research "play has generally been identified with exploratory behavior" (p. 98). Burgers (1966) states that "terms such as 'curiosity,' 'diversive exploration,' 'disturbance by a lack of information,' 'attraction emanating from objects which offer more varied or more irregular stimulation,' 'epistemic curiosity,' and 'conceptual conflict' appear as consequences of a tendency toward play" (p. 1681). In addition, various studies investigating a variety of behaviors involving young children often resort to examining some type of play behavior. This can be seen, for example, in studies of social participation in which the free play activities of nursery children are examined (Parten, 1932, 1933), and in Rubenstein's study (1967) of maternal attentiveness and subsequent exploratory behavior in which exploratory behavior was measured by "presenting play opportunity" and the "availability of toys within reach" (p. 1093).

Play patterns of blind children

Several reports in the literature indicate that the play of blind children is limited. Anne-Marie Sandler (1963), discussing the development of blind children as observed at a nursery in England, states:

> On entering the Hampstead Blind Nursery (this has also been reported by observers at many other institutions for the blind) one is soon struck by the phenomenon which seems to be characteristic of most blind children as compared with sighted children of the same age. This phenomenon is the tendency of these children, no matter how much they are stimulated by their teachers, to lack any sort of real creative drive toward, or interest in, the progressive mastery of the outside world. . . . It appears that many of these children are abnormally content to be left alone, and to indulge in repetitive self-stimulating movements or stereotyped nonadaptive activities. Strenuous efforts on the part of the teacher may often elicit the cooperation of these children, and they may even appear to enjoy such activities as group games, but this enjoyment is rather shallow, and the moment the teacher's efforts slacken, they appear to sink back into a state of lethargy (pp. 344-345).

Lack of desire to play

Burlingham (1965) compares the pupil in a normal nursery school who is "invariably active and spontaneously occupied" (p. 196) with the children in the Nursery for the Blind who will sit, if not compelled otherwise, "motorically idle, on the floor, in a corner, often with their heads on the table" (p. 196). She refers again (1967) to this lack of the desire to play, which is found to be a problem for mothers and nursery school teachers, when she discusses the play activities of the blind child. "The children seem to lack any desire for the objects surrounding them and consequently show no sign of a wish to play" (p. 187).

Play Therapy

☐ Rothschild (1960) practiced play therapy with blind children over a period of five years at the Service Bureau for Blind Children, a department of the Industrial Home for the Blind, Brooklyn, New York. He states (1960, p. 329) that while play is normally used as the basis for therapy with children because it is assumed to be the most spontaneous, natural, and unguarded medium of expression of children, he often found it necessary when dealing with blind children, to introduce the blind child to play first before play could be used as a therapeutic tool. "The blind child may not be accustomed to express and to involve himself in play. Play . . . may be a far less frequently pursued endeavor and considerably less important in the blind child's life than in the life of the child with full vision" (p. 330).

Play, fantasies, and dreams

Singer and Streiner (1966) investigated the imaginative content in the dreams and fantasy play of blind and sighted children. Interviews and spontaneous accounts of the play, fantasies, and dreams of blind and sighted children (aged eight to 12) were recorded and rated independently by judges for imaginativeness. The results indicated that sighted children proved more imaginative in all three areas, while the form and content of the stories, dreams, and play accounts of the blind children "suggest greater concreteness and lack of flexibility or associational variety" (p. 479). The blind children rarely used material that deviated from their day-to-day life experiences and the content did not differ from story to story, usually being restricted to one or two characters. Singer and Streiner conclude by recommending:

To the extent that for the child a varied and rich fantasy life may be a valuable addition to the cognitive repertory and increased affective enjoyment, one might hope that special attention to the training of the blind to imaginative story-telling and practice of fantasy play would be desirable. . . If future research supports the evidence of this study on the imaginative limitation of the blind child, a more conscious effort at imaginative stimulation in the educational curriculum and in the pattern of parent-child relations may prove desirable (p. 481).

Limited world of play

Cowen (1968) examined the sex-role typing of elementary blind students with the use of a questionnaire based on Rosenberg and Sutton-Smith's list of games preferences. She states (p. 41) "the visually handicapped children often responded more slowly to the questionnaire, asked more questions about the activities, and frequently said something like 'Oh, I've played that a few times, and I liked it.' Such remarks impressed the examiner that their world of play was certainly more limited than the results of this study revealed."

The Role of Play in Intellectual Development

☐ The most generally recognized function of spontaneous play has been in aspects relating to the emotional growth of the child. Almy (1967) has suggested that in fact there is such a pervasive and persistent preoccupation with the emotional aspects of play that its intellectual connotations have been severely neglected. But the role of play in intellectual development is vital. Isaacs (1933) has described imaginative and manipulative play as "the starting point which leads to the child's discovery, reasoning and thought" (p. 209). Imaginative play creates

> practical situations which may often be pursued for their own sake, and thus lead on to actual discovery, or to verbal judgment and reasoning. . . . It builds a bridge by which the child can pass from the symbolic values of things to active inquiry into their real construction and real way of working. . . . And in his make-believe play he takes the first steps towards that emancipation of meanings from the here and now of a concrete situation, which makes possible hypothesis and the "as if" consciousness (p. 209).

Sutton-Smith (1967) in a discussion of the role of play in cognitive development suggests the possibility that play produces a "super-abundance of cognitions as well as a readiness for the adoption of an 'as if' set, both of which are potentially available if called upon for adaptive or creative requirements" (p. 107). Piaget (1962) describes play as the "extreme pole of assimilation of reality to the ego while at the same time it has something of the creative imagination which will be the motor of all future thought and even of reason" (p. 162).

Necessity for play

Thus, while play seems to be essential for intellectual development in the seeing child, can the blind be expected to attain satisfactory intellectual development with inadequate play patterns? There is evidence in the literature to indicate that blind children do experience difficulties in attaining satisfactory intellectual development because of certain such inadequacies.

Cognizance of Reality

☐ The seeing child, in his spontaneous play, takes in reality in his own egocentric and affect-laden way. This is necessary because the child cannot immediately adapt to the system of logical thought that characterizes adult thinking (Almy, 1967). According to Piaget (1962) "this thought has not been constructed, and during development it is inadequate to supply the

needs of daily life" (p. 166). The construction of logical thought depends not only on the child's activity with material things, but also on his social collaboration with other children. Interaction with his peers in the social give-and-take of spontaneous play confronts him with the necessity of accommodating himself to their ideas and since these ideas are not so strikingly different from his own, adaptation is more readily made to peer thought than to the thought of the older person (Almy, 1967).

Free dramatic play

Writers who have dealt with play behavior have recognized the importance of play in developing a sense of reality in children. Isaacs (1933) states that free dramatic play "furthers the development of the ego, and of the sense of reality. It helps to free the child from his personal schemes, and to enhance his readiness to understand the objective physical world for its own sake" (p. 210). According to Erikson (1950, p. 194) the child must discover

> what potential play content can be admitted only to fantasy or only to autocosmic play; what content can be successfully represented only in the microcosmic world of toys and things; and what content can be shared with others and forced upon them. As this is learned each sphere is endowed with its own sense of reality and mastery.

The Role of the Mother

☐ Blind children are forced to obtain their knowledge of the reality of objects and situations through the senses other than vision. To the seeing, however, the sense of vision is the unifying agent which allows the individual to observe situations in an all-encompassing manner. The sense of sight also organizes discrete experiences and facilitates the reduction of form varieties to simpler patterns or schemata. The experiences of the blind child remain discrete and unorganized unless guided observation lends organization to them (Lowenfeld, 1963, p. 245). Wills (1965) has suggested that this is one role of the mother of the blind child. The child depends on his mother to help him to some kind of synthesis through experiences she provides.

> Otherwise he will be flooded by a wide range of perceptions from his different senses; and, without the aid of vision, he will not know which to attend to and so will have difficulty in organizing them into concepts. This in turn will hold up secondary-process thinking (pp. 361-362).

Avoiding the pattern of unreality

The difficulty of the blind child in achieving an understanding of the external world has been noted by several writers (Cohen, 1966; Lowenfeld, 1963; Wills, 1965). Lowenfeld (1963) has stated that special opportunities for observation will help blind children "avoid falling into a pattern of unreality which so often interferes with their later adjustment to the requirements of life" (p. 246). Gesell, Ilg, and Bullis (1949) have stated that "the psychological task of the blind infant is to . . . achieve an appreciation of realities other than his own ego" (p. 264). Deutsch (1940) investigated the sense of reality in persons born blind and found a striking readiness to give up reality and escape into fantasy.

Language and Abstract Functioning

☐ An important step in the development of intelligence occurs when the child is able to withdraw from the actual objects of the real world and to deal with internally organized conceptual systems which represent reality. According to Piaget (1947) this occurs when the child is able to distinguish

between *signifiers*, the internal representations, such as an image or word, that stand for some aspect of reality which may be present or absent, real or imagined, and the *significates*, which are the objects or constructs symbolized (cf. Robinson and Robinson, 1966). While the younger child (from birth to two years during the first sensorimotor period in the development of intelligence) can use a few rudimentary signifiers, he does not recognize them as such. The older or higher-level child is able to evoke internally an aspect of the world which is not perceptually present, and to recognize that this is what he is doing. Piaget further distinguishes two kinds of higher-level signifiers, the *symbol* and the *sign*. Symbols are the private, primarily nonverbal signifiers which the child cannot share. Signs are the largely verbal signifiers which have acquired a social meaning and allow the child to communicate with other persons. But the young child finds the system of ready-made collective signs inadequate, since they are inaccessible and hard to master, and therefore these verbal signs will remain unsuitable for a long time. Hence, the child will require "symbolic play or imaginative play, the purest form of egocentric and symbolic thought, the assimilation of reality to the subject's own interests and the expression of reality through the use of images fashioned by himself" (Piaget, 1947, p. 127).

Symbol and sign

☐ Margaret Lowenfeld (1935) has pointed out that children are unable to articulate their experiences since their experiences have a different basis than those of adults. For example, for the young child the senses of smell, taste, and touch are much more important than those of hearing and vision. Therefore, the adult, who is dependent on hearing and vision, cannot imagine what the child is experiencing. This position is similar to that of Piaget when he discusses the need of children to assimilate experience at their own level. As noted previously, Piaget distinguishes between symbols which are the private, primarily nonverbal signifiers which the individual cannot share and signs which are largely verbal signifiers which have acquired a social meaning. The means by which a child progresses from the private to the social signifier may very well be that of play experiences. Hartley, Frank, and Goldenson (1952) state that the value of play experiences may be that "they take an intermediate place between the inarticulate, subjective impressions and the structured language and prescribed conduct of adult social communication" (p. 18).

The Articulation of Experience

If we now turn to Burlingham's (1961) discussion of the development of language in the blind child, it becomes apparent that an emphasis is placed on verbalization before the necessary, previous nonverbal development occurs. According to Burlingham, it appears that blind children, after an initial delay, pick up speech quickly and by the time they reach nursery school age they speak fluently and have larger vocabularies than seeing children.

Language development

> This is one of the spheres that mothers encourage. Speech provides a longed-for contact that the mothers have missed. They have lacked the response to their glance and to their facial expressions. Speech not only makes up for this but also reassures the mother that her child is not backward as well as blind. . . (p. 136)

Burlingham continues that while children normally imitate their mother's speech and this leads to no discrepancy between their concepts and their mother's because the visual impressions which are verbalized are shared by both, this does not occur with the blind child and mother. The mother of the blind child may, in many cases, continue to verbalize based on visual impressions which the blind child cannot share, rather than offering to the child words based on his own sounds, tactile perceptions, and body sensations. While in this way the words verbalized by the child are not connected to his own sensory experience and lack the emotional strength needed to incorporate these words into the child's vocabulary in an independent meaningful way, the words derive emotional meaning based on the mother's pleasure and praise for his achievement. "The blind child who learns the mother's language takes an easy way out; that is, he appears to acquire understanding while in reality he acquires only words" (p. 136).

The mother and the blind child

Lowenfeld (1963, p. 248) refers to the difficulty of the blind child to acquire adequate word concepts. Cutsforth (1932) studied "verbal unreality," that is, learning to name things without having any real experience or idea of them, and found that blind children used visual concepts when other sensory concepts based on familiar experiences could have been used and would have been more meaningful. A later study by Nolan (1960) indicated that visually oriented verbalism was no longer the problem discussed by Cutsforth, due, possibly, as suggested by Lowenfeld (1963, p. 249), to modern methods of instruction brought about by Cutsforth's findings. However, Harley (1963) did find that verbalism caused by the lack of concreteness and first-hand experience continues to be an important problem. Harley states that "as a blind child becomes schooled in verbalism (words and concepts to which he can attach insufficient experiential relations) he may often accept verbal descriptions of others instead of gaining the necessary impressions from concrete experiences through his senses" (p. 9). The items used in the study were items easily accessible to all the children involved. They were so familiar that a six-year-old subject was able to define all of them, yet the oldest blind child of 14 could not accurately identify 24 of the 29 objects represented by the words. Harley states that "if intelligence consists partly of the ability to organize concrete materials in space and time so as to carry out definite aims, and if the ability to organize concrete materials depends to some extent on past experience with these materials, limited contact with the environment should have some effect upon measured intelligence of these blind children" (p. 26).

Verbal unreality

Verbalisms

☐ Rubin (1964) investigated the ability of the congenitally blind to abstract as measured by a series of tests including parts of the WAIS, Proverb's Test, and the Kohn Test of Symbol Arrangement. He defined abstraction as "the ability to comprehend relationships and to react, not merely to concrete objects, but to concepts and abstract symbols, or to discern common elements in miscellaneous stimuli" (p. 23). He concluded that there was an indication of a deficiency in the ability of congenitally blind subjects to abstract.

Ability to Abstract

As previously noted, Piaget (1962) describes play as having "something

Creativity

of the creative imagination . . . (p. 162). Leiberman (1965) studied the relation between children's playfulness and their creativity. She found a significant relation between playfulness and ability on several creative tasks. Wallach and Kogan (1965) found that when creativity tests were given in a situation where the subjects were freed from usual test pressures and the tests were approached in a game-like manner, creativity scores differed from conventional test scores. They concluded that creativity is something different from conventional intelligence and that a playful attitude is necessary for the creative process.

The Response to Toys

☐ Sutton-Smith (1967) presents the viewpoint that

> when a child plays with particular objects, varying his responses with them playfully, he increases the range of his associations for those particular objects. In addition, he discovers many more uses for those objects than he would otherwise. Some of these usages may be unique to himself and many will be "imaginative," "fantastic," "absurd," and perhaps "serendipitous." Presumably, almost anything in the child's repertoire of responses or cognitions can thus be combined with anything else for a novel result, though we would naturally expect recent and intense experiences to play a salient role. While it is probable that most of this associative and combinatorial activity is of no utility except as a self-expressive, self-rewarding exercise, it is also probable that this activity increases the child's repertoire of responses and cognitions so that if he is asked "creativity" questions involving similar objects and associations, he is more likely to be able to make a unique (that is creative) response. That is to say that play increases the child's repertoire of responses, an increase which has potential value (though no inevitable utility) for subsequent adaptive responses (pp. 101-102).

Familiarity

Sutton-Smith hypothesized that children would show a greater repertoire of responses for those toys with which they had played a great deal than for those toys with which they had played less; or more specifically, boys and girls would have a greater repertoire of responses with objects of their own sex than for opposite sex objects. This proved to be the case and since the number of responses were not related to intelligence, Sutton-Smith interpreted the results as an example of the way in which responses developed in play may be put to adaptive use when there is a demand. More generally speaking, an individual who is capable of a wider range of adaptive responses may be better equipped to face situations of crisis.

Impoverished inner life

Anne-Marie Sandler (1963) states of blind children she has observed that "their activity does not appear to lead to the same creativity as in the sighted child. They show impoverishment of their inner life, which leads to the relative 'emptiness' of the blind, so often described in the literature" (p. 359). Singer and Streiner (1966) speak of the lack of that exploratory behavior in blind children which "provides the basis for novel associative combinations that become the food of fantasy" (p. 481). McAndrew (1962) found that blind children were more rigid and feared venturing into strange territory as exemplified by the statement. "I only know how to make what you taught me" (p. 376).

Spontaneous Play and the Educational Program

☐ Play is a vital element in the intellectual development of the child. Without it, the process may be retarded, or distorted, in ways which may not ap-

pear related to play, but in reality are. Educators of blind children may need to foster spontaneous play activities before any meaningful academic learning behavior in the classroom or even a satisfactory life adjustment can be accomplished.

In education, play is acknowledged as taking a meaningful place in instruction. However, this play must usually serve some specifically useful purpose. Children play bingo to learn their numbers, ring-a-round the rosy to improve coordination, lotto, Simple Simon, and others, to teach something academically respectable. These exercises provide an opportunity for traditional learning with candy-like coating. However, these activities cannot be substituted for spontaneous play which establishes the foundations on which intellectual development is built. As blind children appear less likely to participate actively in spontaneous play, it is the responsibility of those working with blind children to assure that this aspect of their educational program is not neglected. The blind child must actually be taught to engage actively, creatively, and independently in spontaneous play activities if he is to attain maximum satisfactory intellectual development.

Spontaneous play activity

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Cricket for Blind Persons in Australia

Based on an article prepared by Ian Stewart for the Australian Blind Cricket Council. L. S. Dyball, of the Queensland Blind Wattle Cricket Club, Brisbane, is chairman of the Council.

The year 1972 is a very important one in the history of cricket for blind persons in Australia. The Victorian Association of Blind Cricketers is celebrating its golden anniversary and the Queensland Blind Wattle Cricket Club is celebrating its 21st anniversary. Also, the 11th Interstate Blind Cricket Carnival will commence in Brisbane on December 29 (ending on January 9) with every Australian state being represented—the first time that this has happened.

Organization

☐ Blind cricket has become very sophisticated since it was first played on an organized basis and may be described as a game in which sound takes the place of sight. A set of playing rules has evolved to which all states adhere; and each state has its own blind cricket club or clubs. In some cases clubs have their own playing grounds and club houses. Since 1951, there has been an Interstate Blind Cricket Carnival every two years. At present, Victoria holds the David Blyth Shield, the perpetual trophy of interstate blind cricket supremacy in Australia.

On the administrative side, there is the Australian Blind Cricket Council which is comprised of three delegates from each state, plus the chairmen and honorary secretary who are nominated by the host state. The host state forms the committee which is responsible for organizing and conducting the biennial Carnival.

Adaptations

☐ A blind cricket team (like a sighted one) is comprised of 11 players—six with partial sight and five who are totally or virtually totally blind. The game is played on a concrete wicket 22 yards long with the boundary line marked 30 to 40 yards from the wicket. Crease lines and a mid-way no-ball line are marked on the wicket itself. To avoid confusion (and possible collisions) only one batting end is used. Batsmen do not wear pads, but do use standard cricket bats. A special cane ball which contains lead and bottle tops is used. The rattling of the bottle tops gives the necessary sound and the lead helps to give the weight of the standard cricket ball. The bowler must deliver the ball under-arm and it must make contact with the pitch at least twice before reaching the batsman, one of the contacts being on the bowler's side of the half-way line. The three stumps at either end of the wicket are made of tubular steel welded together to make one unit and fitted with spikes for inserting it in the pitch. The stumps are painted an iridescent orange color to maximize their visibility for partially sighted players. Other rules concerning batting, running, bowling, outs, runs, and innings have also been worked out.

The Future

☐ It is hoped that some time in the near future it will be possible to hold an International Blind Cricket Series with blind cricketers from all over the world contending for the ashes of a cane cricket ball.

The Auditory Quiz Board: An Orientation and Mobility Game for Visually Handicapped Elementary School Children

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The orientation and mobility instructor who works with visually handicapped elementary school children is presented with two challenges: (1) the children must acquire the simple skills which will enable them to meet their immediate travel needs at home and at school, and (2) the children must lay a groundwork of both physical and mental readiness to meet the more complex travel needs of adolescence and adulthood.

It is usually easier to motivate children to learn something that immediately affects them than it is to motivate them to prepare for some future need. While the young visually handicapped child might easily understand his need to learn to walk from his classroom to the bathroom, he may not see the importance of learning such environmental concepts as directions or streets or intersections. The instructor knows that the child who develops a good understanding of these basic environmental concepts at an early age will learn the skills necessary to meet his later travel needs more easily and more quickly than the child who does not. The child, however, does not think in terms of future needs or goals, and he must therefore be motivated through some other means.

Motivation Through Games

☐ Elementary school teachers often use games to motivate children to learn in their classrooms. "Racko" may be played for developing arithmetic skills, or "Bingo Bang" may be played for vocabulary development. At the Wisconsin School for the Visually Handicapped, the orientation and mobility department has developed a simple game device for motivating visually handicapped children to learn basic environmental concepts at an early age. While the device incorporates such basic teaching principles as frequent repetition, immediate and positive reinforcement, and individualized instructional levels, we feel its success is related most strongly to the principle that "learning can be fun."

Auditory Quiz Board

The device, called Auditory Quiz Board (AQB), utilizes multiple choice questions as the evaluative and learning tool. Each individual question is brailled or printed onto a specially wired form which is clipped to the surface of a small battery-operated box designed to buzz when contact is made between a small probe and the correct answer to the question (see Figure 1).

The "buzz" response of the Auditory Quiz Board serves as an excellent auditory stimulus for visually handicapped children. Students are anxious to learn how they, too, can make the box buzz. Since the boxes are easily constructed, each student in a classroom can be given his own box, and various individual and group games can be played.

☐ Playing competitive games with the AQB has proven to be an extremely effective activity for motivating the students to learn the answers to the questions. With children in grades three through six we have developed contest games between individuals, between teams within a classroom and between different grade levels or classes. In each case, the games have proven successful not only because they hold the interest of the students, but, more importantly, because they provide the motivation for the students to want to learn the answers to the questions.

Competition

The questions have been designed to help provide the students with a basic understanding of the environment as it relates to the travel needs of a visually handicapped person. The questions can be divided into two general categories: (1) evaluation of concepts acquired primarily through memorization, and (2) evaluation of concepts acquired only through experience. The Auditory Quiz Board games have proven effective in motivating students to acquire the memorized or experiential background necessary to answer both types of questions.

Value of questions

The games have proven especially effective in the area of memorized concepts, for example, learning the cardinal directions. Students must memorize the relationships of the four main directions before there can be any practical application. With the AQB students have fun memorizing their directions. Questions about directions are designed for all instructional levels, for the beginning students as well as the more advanced students.

Testing memorized concepts

☐ Students may begin by learning the basic positional relationships of the four directions, e.g., if you are facing North, what direction is behind you? (S, N, E, W); If you are facing East and make a right turn, what direction are you facing? (N, S, E, W); If East in behind you, what direction is on your left? (N, S, E, W).

Sample Questions

Students also learn to relate two objects to one another, e.g., If your desk is North of you, in what direction do you have to go to get to the desk? (S, Right, N,E); If you are facing South and I am on your left side, what direction are you from me? (Left, W, E, N); If you are facing North and I am facing you, what direction am I facing? (N, E, S, W).

Finally, directions can be applied to the outdoor environment in questions such as: If you are walking North and the street is on your left, what side of the street are you on? (E, Left, W, S); If you have walked North and East to get to a store, what directions must you travel to return to your starting point? (N & W, W & S, E & W, N & E); What direction must you walk to get from the NE to the NW corner of an intersection? (NW, N, E, W).

Outdoor environment questions

Questions about the student's own classroom or school environment should be included at each level, e.g., What direction do the seats in our school auditorium face? (The back of the auditorium, S, Up, N); What direction do you have to walk to get from the education building to the girl's dormitory? (E & N, E & W, S & W, N & W); The Wisconsin School for the Visually Handicapped is located on the (S, Left, E, N) side of the street.

Classroom environment questions

☐ Initial work with our elementary level students revealed not only a lack of knowledge of directions, but also a lack of interest in learning them. We

Value of the AQB

believe that the Auditory Quiz Board has been the major stimulus in bringing most of the students to the point where they are now demanding more difficult and challenging questions than those we originally designed.

In other areas of memorized concept development, the AQB can be equally effective. Questions can be included, for example, to teach a child that cars go on a green light and stop on a red light, or that cars must stop at a stop sign, or that cars generally travel on the right hand side of the road.

The games can also be used in conjunction with models and outdoor activities to help teach environmental concepts which are learned best from experience rather than from memory. The second group of questions, then, is designed to stimulate interest in the outdoor environment and to supplement learning activities which provide the student with various environmental experiences. Questions may cover such topics as the number of sides to a city block, the relationship of the curb to the street or sidewalk, the number and position of corners at an intersection, the meaning of a dead-end street or a T-intersection, the grid pattern of intersecting streets, etc. While these questions must be accompanied by actual experience if learning is to take place, the Auditory Quiz Board aids greatly in providing motivation for the student to participate in the activities designed to provide desired experiences. Furthermore, the student's answers to the same questions serve as an excellent evaluative tool with which to gauge his progress in environmental concept development.

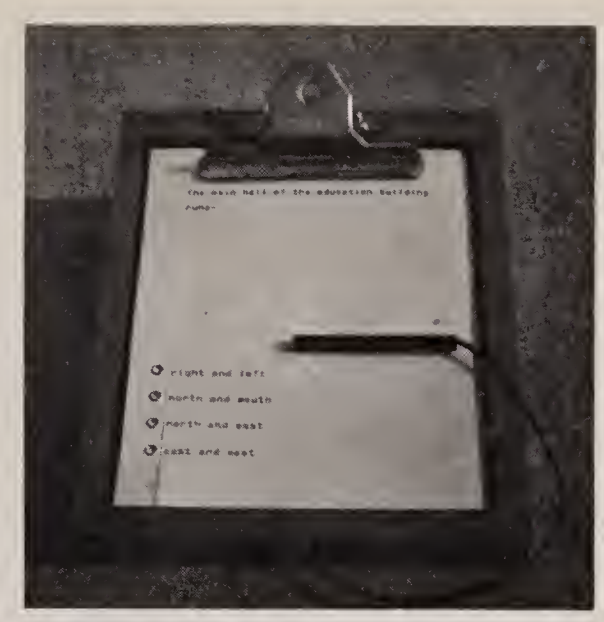


FIGURE 1
The Auditory Quiz Board.

The base is made of wood with a Masonite top. The device is 13 inches long, 10½ inches wide, 3-3/16 inches tall at the top, and 1-3/8 inches tall at the bottom. Diagrams, showing the wiring and details of construction, are available from the authors.

Summary

☐ The use of the AQB games has become an integral part of our program for teaching visually handicapped elementary school students cardinal directions and other basic environmental or geographical concepts preparatory to advanced orientation and mobility training. The following advantages can be noted: 1) The device is simple and inexpensive to construct. 2) It is easily adapted to print or braille. 3) It may be used as either an evaluative or a teaching tool. 4) The questions can easily be individualized to meet student or classroom needs. 5) The boards are accessible and portable and can easily be placed in classroom, library, or dormitories for individual practice. 6) The boards are easily used by elementary classroom teachers in the absence of the mobility instructor. 7) The boards can also be used with high school students. 8) The principles of this game device could easily be adapted to other areas of instruction (science, history, etc.). 9) Most importantly, the "buzz" response of the AQB is a highly motivational tool for use with visually handicapped children.

As a result of the Auditory Quiz Board games, many students at the Wisconsin School for the Visually Handicapped have learned at a very early age that "orientation and mobility is fun!"

The Specialized Camp as Preparation for Integration

ROSE RESNICK

Miss Resnick is executive director of the California League for the Handicapped, Inc., San Francisco.

The views expressed in this paper are the result of my ten years of experience as executive director of the Enchanted Hills Camp for blind children and adults, including the sponsorship of integrated camping over a six-year period by the California League for the Handicapped.

The term "camp" here refers to an intensive two- or three-week outdoor group living experience. The purpose of the specialized camp is to provide the handicapped child with opportunities to enjoy, adjust to, and participate in life situations through increased physical assurance and freedom, independence and self-care, skills, diversity of interest, social conformity, social interaction, and the renewed vitality inherent in living close to nature. How can these aims best be accomplished?

Role of Parents' Attitudes

☐ There are those who regard a camp for the handicapped as a reinforcement of segregation and, therefore, as a negative rather than a positive form of recreation. Conceivably, this would be true in the case of children whose parents are accepting of their handicaps and high in their expectations of their children's potential to function independently in the activities of daily living. For such children who can make happy use of regular camps, it would be a disservice to send them to any other kind of camp. However, such cases are the exception rather than the rule. Most parents react with fear, shame, guilt, or resentment to the realization that they have an incurably handicapped child and they treat him accordingly. In the face of today's handicapped population, with the high incidence of two or more impairments, even accepting parents are at a loss to know how to help the child learn and enjoy living.

The specialized camp is first of all, then, a chance for handicapped children to be free of over-protective parents, to live in an atmosphere of understanding and encouragement, to use their muscles—mental, physical, and spiritual—and thus to experience their potential for self-reliance.

Adaptations

☐ Implicit in the specialized camp are a number of adaptations dictated by the nature of the particular handicap accommodated. To meet acceptable standards such camps must have trained staff who understand the handicapped child's abilities and limitations, his areas of need for help and for self-reliance, for safety and challenge. The quality and competence of the staff are basic to the success of any camp. They are of even greater importance in work with the handicapped, since their motivation, learning, participation, progress, and pleasure will depend in large measure upon the knowledge, warmth, skill, judgment, maturity, imagination, and honesty of the personnel.

Communication skills

A second requirement of adaptation is the means of communication.

Blind children will require the use of sound and touch, deaf children the sign language in games, dramatic skits around the campfire, chapel—in fact throughout the entire program. Think how a blind child would feel when a baseball game was in progress at a regular camp—he would either stand on the sidelines or read a braille book in his cabin. At the camp geared to his needs, he is part of a team that plays, using a beeping ball, or the pitcher rolls the ball to the batter who has sound clues in running bases. Think how the deaf child would feel during campfire at a hearing camp. The teaching techniques for both types of handicapped children would also necessarily be adapted. The blind child requiring verbal descriptions; the deaf child, visual. Where such adaptations are absent, the child's relationships and opportunity for personal satisfaction, learning, and social growth are inevitably going to be diminished.

Elimination of barriers

In the case of the orthopedically handicapped, the specialized camp will be free of, or have fewer, architectural barriers and will allow when necessary for the use of wheelchairs. Blind children will be able to follow guidelines at least until they are familiar with their surroundings. These are particularly advisable in an area where there are sudden drop-offs or subtle, circuitous paths.

Psychological advantages

Perhaps most important of all advantages to the handicapped child in a specialized camp are psychological factors—the pleasure of association with those who share a common problem, the sense of belonging and security, the freedom from over-protective buddies or staff, the stimulus of observing the achievement of others similarly handicapped, the opportunity, through competition on a completely equal basis, to develop greater self-confidence and a more positive self-image. Finally, assuming that the camp is operated on the highest of camping standards, handicapped children are more apt to have a better time at a camp adapted to their needs.

Preparation for Regular Camp

☐ Freed by the acquisition of physical, manual, and social skills and strengthened by the awareness of their ability to contribute to a camping program, they will have a better chance of enjoying a regular camp, of not feeling inferior, of not being a source of concern to other campers or staff, and of sincere acceptance on a par with other campers. They have the vocabulary of sports, a knowledge of how to use tools and crafts, the ability to share in cabin clean up and to put on skits around the campfire, and a knowledge of the basic strokes of swimming. They can now reach out with self-confidence to make new friends, to try their wings in more challenging situations. The skills, the attitudes, and the success experiences acquired in the specialized camp will help them participate more fully and more happily with non-handicapped boys and girls.

Further integration

In several instances, blind children who have been rejected by local swimming pools or day camps were accepted after they had been to Enchanted Hills. They joined school choruses and clubs and attended school dances. One parent said, "We used to say, 'Wait here, Johnny, we'll be right back, we're going in for a swim.' Now we say, 'Come on, Johnny, let's go swimming.' "

Conditions for Success

☐ Based on my experience, the integrated camp will be more apt to succeed under the following conditions: 1) camper readiness (he should be capable of self-care, getting along with others in a group situation, and independent mobility); 2) an interested and understanding camp director; 3) staff orientation; 4) orientation to the non-handicapped campers; 5) integrated living arrangement (One handicapped child should share a cabin with several non-handicapped campers. Camps which house groups of handicapped children separately emphasize their differences from other campers and thus enhance their segregation, instead of making them feel part of the camp family.); 6) use of the small, privately operated camp, rather than the large, public agency type. Under these conditions, enthusiastic reports from both staff and campers who were epileptic, blind, cerebral palsied, and orthopedically handicapped are common.

A stepping stone

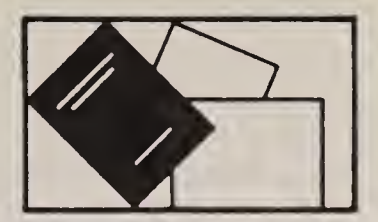
Integration, not only in camping, but in family and community life, must be the goal of all services for handicapped children if they are to lead satisfying and productive lives. But we all know that professional people get bogged down in theory. The mere act of attending a camp for non-handicapped children does not necessarily ensure a good or useful time for either the handicapped child or the regular campers. It could, in fact, be traumatic for both. Why not use the specialized camp as a stepping stone to integration? One kind of experience need not preclude the other.

Responses to Enchanted Hills

☐ For an idea of what Enchanted Hills meant to those who attended while I was privileged to be connected with it, here is a sampling of some of the comments. "Learning is hard, but once you catch on it's marvelous." "I wish I had more time up here so I could learn to do other things for myself." Tommy, a nine-year-old, blind, spastic, and slightly retarded boy referred to Enchanted Hills as "Heaven." He is happy there because, "nobody makes fun of you and people are patient when you are trying to learn something." And this letter from a 14-year-old totally blind boy· "At camp I learned to sit up straight at meals, and that in this life one must learn to give as well as take. When I learned to row and pitch horseshoes, I felt proud. These new things which I found at camp have helped me to become happy, since my life is more full. All in all, camp has meant a lot of fun to me. It has taught me many things, but most important of all, it has made me feel more wanted by people."

Index for Volume 66 of the New Outlook (1972) Will Be Included With the January 1973 Issue

Review



ARE BUTTERFLIES FREE FOR YOU AND ME?

To Race the Wind: An Autobiography, by Harold Krents. New York: G. P. Putnam's Sons, 1972. 282p. $6.95.

Butterflies Are Free, directed by Milton Katselas. Based on the play by Leonard Gershe. Columbia Pictures, 1972.

Reviewed by Tessie Okin, Ph.D.

Why a question for the title of a review? To make my readers stop and think. The butterfly pays a price for its freedom. And so do human beings. Certainly the book makes that perfectly clear.

But how to review it? It is a complex book which can be read on at least two levels for different purposes: an exciting autobiography about Harold Krents, or as a source of teaching material to stimulate discussion among parents and professionals about the growth and development of the handicapped child. The movie is something else again and I shall comment on that later. Let me begin by presenting the story line of the book.

First of all it appears to be the story of the first 28 years of life of a remarkable young man, Harold Krents. It is his life which inspired the playwright to create the blind hero of the Broadway hit, "Butterflies Are Free." Of course it was inevitable that a Broadway hit would be transferred to celluloid, and Columbia Pictures created a movie by the same name. In his autobiography Harold Krents proceeds with a light touch, with considerable wit, and a facile pencil to tell the story of an extraordinary life, and an even more extraordinary family.

Having been born a premature baby, Krents spends several weeks in an incubator where he suffers the effects of too much oxygen, resulting in almost total blindness. A very small amount of residual vision in one eye allows him to achieve mobility in his early years. At the age of nine this tiny bit of vision disappears, leaving him only a pin prick of light until his twenties. Then this goes as well.

The book describes the agony of the parents when they discover their son's handicap and their outright refusal to accept the reality of blindness. This refusal means that the family never relegates Harold to the world of the blind. This family attitude contributes to the fact that Harold himself never accepts any label, whether that of blind, handicapped, or of dependence. This decision requires massive organization of their lives, a dream house built of courage and a determination to live normally. There are superhuman efforts on the part of all members of the family to overcome the obstacle that involves them all. Harold faces problems in nursery schools, in elementary schools, on vacation, in college, and in professional school. He is constantly assaulted by the cruelty of children and adults. His life is a deep well of loneliness, a constant struggle with humiliation, and a continuing battle to conquer the fears that sheer survival presents.

On page after page Harold describes what it means not to have a playmate on vacation, to be eliminated from games, to be ridiculed by classmates. But, unbelievably, he wins the presidency of the student body of Scarsdale High School. How? He also describes an unbelievable tale of life at Harvard College where he became first a cum laude graduate, and then a success at Harvard Law School.

As though this were not enough, Harold somehow used his pin prick of light sufficiently to play football, battered and bruised though he became. Fortunately for him, he also discovered music and poetry during his adolescence. Some 300 songs served him in good stead as creative outlet for his vivid imagination, intense emotions, and excellent mind.

Harold Krents is currently married to a sighted, lovely young woman and is studying at Oxford on a special scholarship.

So much for the outlines of the story. In a review of the book, Mark Van Doren comments on "how headlong a course Harold Krents had set for himself through handicaps and discouragements of every known kind for he was and is an extraordinary person, energetic without limit, who has never dodged difficulty, has never asked favors of fate, has never forgotten how to laugh at himself and others, and never has ceased to feel that all existence is a race straight forward into the darkness that waits there even for those that say they see."

The Reviewer's Dilemma

The outline of the story and the preceding quote suggest to the reader the dilemma faced by this reviewer. The book is indeed exciting and rewarding, bright and powerful, with many climaxes, crises, and moments of humor, but it is also the story of an extraordinary person. How many of us are extraordinary? Nonsighted readers who discover this book may enjoy it and certainly will identify with some of the agonizing crises that are presented. But whether this book will give them courage is something else again. For Harold is clearly gifted and exceptional. It may be that blindness was the goad that drove him to greater heights and efforts. But one suspects he would have achieved great heights regardless of physical handicap.

A young professional man who is blind spoke to me with considerable feeling about "the superman syndrome." He resented the notion that blind achievers were considered supermen instead of ordinary human beings. It seems to me

that *To Race The Wind* contributes to the fiction that the blind either are or must be supermen.

For Parents of Handicapped Children

Parents of blind children may find the book interesting, because it suggests an approach which is surely not typical. The family was loving and warm, which is as it should be. The family saw Harold as just an ordinary boy who happened to be blind; this is unusual. A philosophy which says that children should be treated fairly and equally with no quarter given for handicap, has its very real, positive rewards, as demonstrated in this book. However, it also has its problems. A boy who is given no mobility instruction until college is bound to pay the price in split lips, in many bloody noses, and more than one concussion.

The loss of Harold's small amount of vision at age nine followed a concussion suffered in a game of football. Should a child with this handicap have been permitted to play football? Clearly, the parents must have decided that the boy's mental health was more important than any physical harm he might sustain. Was this a valid decision?

These remarkable parents must somehow, somewhere have devised systems that gave the boy his strength and independence while protecting his life and limb. It may be that families with blind children, and professional workers who deal with mobiltiy, know a great deal about this area. For this reviewer, there would have been real interest in knowing something more of how the parents must have coped with reality.

There is a major incident at the time of Harold's arrival at Harvard, where his problem in trying to negotiate the complex campus is a painful one. There is a vivid scene in which one follows Harold and his mother as they count off the footsteps from room to room, from building to building, hoping that Harold can create a walking map in his memory without depending on others. This in fact provided one of the few glimpses into how this family managed. More such insights would have been extremely useful for the reader who is searching for specific information.

The Message for Professionals

There is another level on which the book can be read, especially by social workers, teachers, counselors, and other professionals in the human services which probably was not in the mind of the author. For such professionals, the book is replete with incidents which reveal the sensitive, developing soul of a growing boy. Here one can discover a rich vein of material for discussion and teaching purposes dealing with such concepts as difference, dependence, group processes, rejection, and self-discovery.

A number of vignettes will serve to illustrate some of these concepts.

For instance, Harold is about six when he is finally admitted to a kindergarten in a nearby public school. Building with blocks is nearly his Waterloo, for it turns out that Billy, the biggest boy in the class, always destroys his buildings (page 45). Somehow the teacher manages to miss this cruelty for several months. The climax occurs on a cold morning in March when Billy batters down a wall of Harold's snow fort. By this time Harold is screaming and ready to fight. Billy sneers his refusal and announces that he wouldn't fight a blind boy. Harold is stunned and unbelieving and for the first time discovers his difference from those around him. Over and over he refuses to accept Billy's definition of his blindness and then the following exchange takes place. "The teacher told us never to fight with you because you couldn't see," Billy told him.

> By this time most of the class had gathered around sensing a possible fight. However, I wasn't even aware of them. Suddenly I was filled with a wild unreasonable rage. I hated the teacher for differentiating me; I hated Billy for tormenting me and for feeling so superior because he just happened to see; but most of all I hated myself because I was different.

Over and over Harold struggles with the acceptance and denial of his difference. Over and over he is faced with the insensitivity of waiters who think the blind are deaf, of taxi drivers who think the blind are mentally retarded. Each incident provides another test for Harold, a challenge to a sense of self and to his identity. In a mistaken effort to help Harold come to grips with his capacity and his limitations, his mother advises the staff of a school in physical fitness not to give him an award at the graduation because she assumed it was being done out of pity. Harold finds this intolerable. He screams his anger at her and cries out his loneliness and his self-hatred for being different.

Differences Are Real

The message here is a very significant one. All people are different. Difference lies not only in blindness, but in all handicaps, in race, in religion, in socio-economic class, and in culture. Difference is a fact of life and one to be reckoned with, to be understood, and then to be appreciated. For long years American schools taught the myth of "the melting pot," thereby compounding a tragic error. There never was a melting pot. By denying people the right to their difference, we deny them their ethnic heritage. By teaching the myth that everybody is equal and somehow all alike, we are denying children the truth that human beings are different and not at all alike. We are alike only in our right to live and to the opportunity to achieve our highest potential, whatever that potential may be.

Harold, incidentally, has discovered this by the time he is in the fifth grade (page 119). He describes one of his new friends, a stranger in Scarsdale, who spoke with a Midwest accent. This accent, along with his brilliance, set him apart from the others. Harold and his friend discovered that to be different in the fifth grade meant to be despised. They became friends because, says Harold, "The only thing we had in common was our loneliness and the desperate desire to be needed."

Is there a way for teachers and counselors to help children discover that it is enriching to be different, that we have our humanity in common, and that we can

give gifts to one another if we can build human relationships based upon mutual needs? In short, the question that educators seem not yet to have answered, and which parents need to be helped to understand on behalf of their children, is a simple one—is difference a cross to be borne, or a value to be nurtured in these United States?

The Need To Belong

In addition to the question of difference, there is throughout the book an unending cry of loneliness and the need to belong. This is a common human need and not peculiar to Harold Krents alone, although for him the major cause stems from his handicap which tends to make him always the outcast, never useful, never wanted. In the second grade Harold is rejected even by the witches and the scarecrows who refuse to accept him for trick-or-treating on Halloween (page 68). One wonders where the teacher was in this situation. Even more poignant during this period (page 71) is Harold's description of a battle between the boys and the girls. Each army seeks to capture a hill. How tragic for Harold when the boys reject him and his offer to fight for them. In stunned disbelief he asks, " 'Why not? I'm a boy.' 'Yes, but you're blind,' came the answer . . . 'I'm a boy first and blind second,' I said quietly. 'No, you're not, you're a blind boy.' " Harold stumbles down the hill with his broken masculinity dragging behind; and offers his help to the girls' army, only to be refused again, this time because he's a boy. Harold tries once again, " 'I may be a boy, but I'm blind,' I said, still holding my ground. 'You're still a boy,' Cynthia said. 'That's just what I told them,' I said sadly, indicating the other army. As I slowly started down the hill, I wanted to die."

This exchange is quoted at length because it illustrates Harold's desperate effort to belong and the rejection which he meets endlessly during his growing years. The need to be part of a unit larger than oneself, the need to form a bond and union with others is universal. How do we provide this for our handicapped youngsters? For minority groups? For the old? Is the only answer to segregate people? Must blind children be relegated to institutions for the blind to assure them of the opportunity to be accepted and needed? Harold Krents' story raises these questions very poignantly. His family chose to answer them by insisting that he be part of the sighted world, where he fought with every inch of his manhood to be accepted as a human being. He paid the heavy price of loneliness. His reward, apparently, has been the achievement of manhood and independence.

Personal Problem—Social Issue

I cannot answer the questions, but I know they must be answered by educators, by professionals, and by every parent with a child who is different from the average. Certainly society must find answers since the incidence of blindness in the population is increasing, and therefore, the rights of the child to be integrated into the mainstream of life *are no longer personal problems, rather they are social issues.*

The "personal problem—social issue" question is engaged in one more instance which bears repeating. During his stint at Harvard, Harold seems to be doing very well with his roommates, until his junior year when problems begin to develop. Resentment and irritation seem to mount and Harold's new found independence is challenged by mysterious accidents. For instance, the furniture is suddenly rearranged in his room without his knowledge, causing him to trip.

The situation reaches a boiling point (page 229). His roommates suddenly announce during a friendly bull session that all blind babies should be exterminated on the grounds that the population is growing too rapidly and only people who can make a contribution to society should be allowed to live in it. Harold consigns them to hell, only to be told that blind people are a social burden and that it would be better for them and us if they were annihilated as soon as their handicap was discovered. Harold is enraged and retorts:

> If we don't contribute anything, it's not our fault. . . . Instead of sitting on your big asses playing God, why don't you try to change a pathetic situation. In an age of computers and advanced technology, there are thousands of blind people who are still using slates and stylus, implements that were "in" back in the days of ancient Babylon. Blind people are up against a blank wall—getting absolutely nowhere. At least when the black man can't stand the frustration of living a deadened existence anymore, he picks up a rock, throws it at a cop, and draws attention to his plight. Even if a blind person wanted to, he couldn't hurl a rock at a policeman unless the officer was obliging enough to shout directions as to where to throw it. It's not we who are to blame for the poor showing we've made; if anybody is to blame, it's you, baby.

The incident is quoted on its own merits for it raises the question that every blind person has asked of himself and that Harold has dared to ask aloud.

Social Exchange

However, there is another concept which bears identifying in this situation. What was it that broke down in what had been a good relationship between Harold and his roommates? Had it really been good? What is the source of discomfort that sighted and non-sighted feel in social situations? Erving Goffman addresses himself to these questions when he discusses a concept which he labels "the social exchange theory." He comments that all human social interactions are based upon a mutual exchange of giving and taking. In social situations most people give with the confident feeling that there will be a return in some way at some time. Whether it is material or spiritual does not matter.

The unspoken understanding on the subliminal level is that people give to one another. In the social exchange between the blind and the sighted, there is a crucial limitation on one side of the exchange. If this notion is valid, then there is another question to ponder on the part of professionals in the human services,

particularly teachers. How can we help children who are visually handicapped to fit into the mainstream of normal school settings to engage in social interactions which are successful and mutually gratifying to both the handicapped and the so-called normal?

Harold Krents answers all the questions that I have raised in this review. By achieving a philosophy of life that equips him with an impregnable armor, he makes his choice at the tender age of nine when the doctor informs the family that he is to spend a lifetime of blindness. Harold announces to his parents,

> I want to try to fight, I don't want everybody to feel sorry for me just because I can't see. I want to pick up again like nothing has happened and make it here—right here.

With this statement he refuses to go to a school for the blind, to carry a cane, or to depend on a dog, ever. He says for himself that he would not be a blind man in a blind world. But he goes beyond this to a recognition that the seeing world lives in darkness. He expresses this in one of his prize-winning poems.

Oh, foolish people of the world with sighted eyes;
Yet you do not see.
If I could see with mine but a short hour
How wondrous that would be.
Do you appreciate the sight of a flower,
Its petals shining with the morning dew?
And does your soul grow quiet
When the white clouds rush across the azure blue? . . .
And do you feel a sense of awe when on a mountaintop
In looking down, you see the wondrous view?
Oh, foolish men, I say to you that I am blind
But—foolish men—so are you!

The Movie

After reading the book, one finds in the movie a totally different conceptualization. I think it fair to call it an excellent soap opera, distinguished by first-class acting, wit and humor, and several sentimental moments which are guaranteed to draw sniffles.

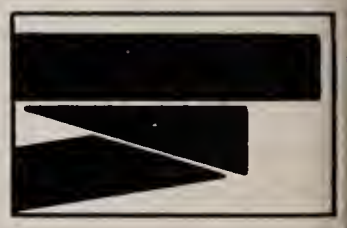
The romance is not believable, the heroine is a pushover, the blind hero is too handsome to be true, and the possessive mother really has a heart of gold.

As for teaching the audience anything about blindness, I confess to puzzlement. One's sympathies are clearly supposed to be with "Donny," the blind singer, song writer, and guitar player. But I fear that when one sees a blind man stumbling, tripping, and falling to the ground in tears, the response is pity rather than sympathy. And when the audience learns that Donny is able to live alone in an apartment, because his mother is wealthy and footing his bills, what is the message about blind people and dependence?

In short, the message for this reviewer is, the movie is fun, tender, and gay. See it for a laugh and a lump in the throat. Lessons about blindness, if any, are purely coincidental and bear no resemblance to any persons living or dead.

Dr. Okin is a professor in the School of Social Administration, Temple University, Philadelphia.

Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1,000 words in length.*

Advocacy for the Handicapped

Benjamin C. Johnston

A "new dimension" in blindness and retardation has of late been appearing with some regularity in professional literature. Its appearance is usually in the form of a description of a philosophical and psychological stance toward the handicapped which I have espoused and which I hope others will explore. The stance to which I refer is that of advocacy. I would hasten to add at this point that the following comments on advocacy are my personal ones and further that observations are global and not directed specifically toward any segment of the profession.

At the present point in time, my advocacy role entails a very minimal need for me to defend myself or to be embarrassed by any criticism which may be directed toward me by those who resent my somewhat unpopular position. I can therefore state without hesitation that because of my position on advocacy:

1. My allegiance is not to any professional field, nor in fact even to the profession I have been trained in.

2. My allegiance is not to current programs, the people who operate them, or the agencies that perpetuate them.

3. My allegiance is not to the Caucasian, Protestant work ethic which encourages doing the best we can with what is available—which I translate as saying "The status quo is O.K.!"

4. My allegiance is not to social etiquette and professional ethics which caution against raising socially and politically unpopular issues.

My allegiance is to handicapped individuals, especially the blind and retarded, wherever they might be, and to their needs, interests, and aspirations.

It is not my intent to say that professionals knowingly and intentionally commit the grave injustices against the handicapped which I have witnessed and sometimes been a party to. Many of those most responsible for the crimes I see are well-meaning people whose colossal insensitivity to handicapped people simply does not allow them to realize that the mere verbal expression of good intent or good will can never justify the results of some of their activities.

As I see it, the recognized agencies and institutions serving people—welfare agencies, the police and courts, medical and health facilities, and especially schools and training programs—are tightly locked into a system which undermines the individual and social differences of the powerless, undefended population of people whom they are supposed to be serving. The rules of the service delivery game seem to be made for the serving of professional interests; the venting of professional frustration, hostility, and petty jealousy; the fulfillment of professional desires; and the ultimate growth of the professions and all their vested technical interests, regardless of the fact that the service they are delivering is often brutalizing in the light of the real needs of the people they are supposed to be serving.

To sharpen the focus somewhat on the institutions which I am criticizing, it will be necessary to recognize that I view service delivery in its broadest sense, as being concerned both with the provision of specific services and with the personal growth and development of the person being served. The most crippling aspect of agencies and institutions today seems to me to be the rather pompous overestimation of the importance of formal "training" programs. By training programs, I mean all those things that professionals do to the people they serve as though those things were necessary and prerequisite conditions of receiving services.

Because professionals so uniformly seem to be overvaluing the effectiveness of their formal service system with all its disheartening rigidity, they overlook the fantastic contribution to the well-being of the handicapped carried out informally by many non-professional people—extended families, peers, community, and the vast diversity of people who reach and help others through a complex array of media. It is in this area that I think services to the blind could make a valuable contribution in its field.

I fully realize that our agencies and institutions have been rightfully charged with the responsibility of helping handicapped people to live in and contribute to society. But to comply with my understanding of the handicapped person and his needs, the professionals who staff our agencies and institutions must be equally concerned with the person's growth and development—with the unique emergence of a total, self-respecting person whose development has been fostered by experience where he *can* and *does* succeed. Unless our agencies and institutions accept and treasure the aim of nurturing the personal growth of each person in their care, it spells frustration and folly to continue to claim responsibility for preparing the handicapped to live a better life.

If this dual role of both providing necessary services and fostering individual growth and development had been accepted by agencies and institutions, then the service delivery process would have been centered on individuals; and professional staffs would have long ago realized that the habilitative process is a very private and idiosyncratic activity which places the majority of responsibility on the shoulders of the person being served.

If handicapped individuals had not been prejudged as incompetent and divested of the responsibility for their own growth and development in favor of having that responsibility assumed by an unbending, ingrown service delivery system, these handicapped would not be expected to internalize the value system which is implicit in the programs of many of our agencies and institutions. These value systems are too often rigid, restrictive, and ultraconservative, and contain a blatant refusal to recognize the needs of the handicapped person to achieve flexibility, tolerance, leadership, creativity and a capacity for living in a confusing and chaotic technological society.

If agencies and institutions had not deprived handicapped individuals of the opportunity to be individuals, had not deprived them of their right to personal growth and development, then the individual timetable of self-mastery and effective living would have been respected; and I am afraid it has not been respected at all.

If agencies and institutions were people-centered, professionals would be using their observational power to gather and record data about handicapped individuals —their activities, feelings, and attitudes— which could then be converted into methods for helping the handicapped person achieve personal growth by acknowledging his differences and accommodating to them so that he could succeed on his own terms. Instead, we gather and record data about the handicapped person to stigmatize, categorize, label, and otherwise exclude him. What might have become a service delivery program designed to provide for the whole range of needs of the handicapped has become instead a program of tyranny, based on the handicapped person's ability to "fit into" or "get along with" the needs of the program or program staff.

If agencies and institutions had championed the rights of their clients to *grow* and *become* through a service delivery process that encouraged their participation in the decision-making processes that affects them, then professional staff would have been trained and supervised to assume a guiding role in the development of their client's life, rather than the often-present authoritarian role. We have trained our counselors, psychologists, social workers, and administrators to be memory banks, computers which can store up a vast array of scientific knowledge

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The Sensi-Quik is not sold but is supplied on payment of a six dollar membership fee either directly to anyone who joins the Go-Sees or through agencies serving the blind. Along with the Sensi-Quik cane, the Go-Sees provide the booklet "Touch and an Occasional Tap," available on disc or tape or in print; braille edition only on a loan basis. Persons or agencies interested in the Sensi-Quik cane are invited to contact

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about their clients, who can talk in terms of dollars, numbers, and percents, but who have lost all feeling for the people they are dealing with. Psychologists, counselors, social workers, and administrators who are blind to their own shortsightedness and lack of perception, are also ignorant of their own gross insensitivity to the needs of those handicapped entrusted to their care.

It should come as no surprise, then, that I firmly believe that the emotional and functional problems of many of our handicapped citizens are created (at worst) and reinforced (at best) by the policies and practices of the agencies and institutions which each of us know and participate in!

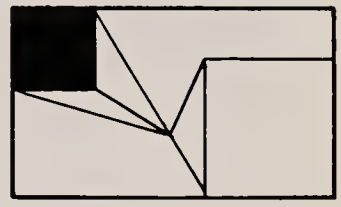
If we, as purveyors of services, are to make any attempt to undo the colossal wrongs which have been done, we must begin immediately to innovate unconventional, meaningful, humanizing programs for our clients. We must begin, for example, to use the extended family as a socializing influence for those we serve. The foster grandparent program would be an example of service delivery in this area. We must equip and train more paraprofessionals to provide direct service to handicapped people who may never come in contact with the "professional" service purveyor. We must integrate programs for the handicapped into the mainstream of community life, so that the handicapped will not be isolated, rejected, and disenfranchised. We must use the mass media to get our message to the people—"The handicapped can be helped!"

I believe that each of us should begin a "new dimension" today, at this very moment. We must vow to rediscover and develop the uniqueness of each handicapped person. Our pledge should be "People first, people last, and people always," and our prayer should be that we not look at a blind person and see only the reflection of ourselves and our lack of perception, that we not look at the retarded and see the reflection of our own ignorance and lack of feeling.

I sincerely hope that these remarks have in some small way stimulated each of you to explore the dimension of advocacy if you have not already done so. It is not an easy role, nor a rewarding one at present. However, the needs of our handicapped citizens demand that we make the attempt.

Mr. Johnston is the school psychologist at the Orange Grove Center for the Retarded, Chattanooga, Tennessee. This "Comment" is based on a position paper presented by the author to the Fourth Southeast Regional Conference of the American Association of Workers for Blind, July 27, 1972.

Letter to the Editors



The Deaf, the Blind—and the Movies: A Reply

To the Editors:

You asked for opinions concerning the movie-house concession for deaf and blind persons (*New Outlook* "Comment," September 1972, p. 241) under which they would only have to pay 50 percent of the price of a ticket because of their handicaps. The reason given was that because the blind cannot see and the deaf cannot hear, they are missing much of what is going on during a movie. I as a blind citizen would like to voice my opposition to this concession for several reasons.

First, the assumption that we miss something does not take into consideration the alternatives open to the deaf or blind person. With some compensations, the action can be made clear to the blind person and the dialogue can be made clear to the deaf person—clear enough that there is real enjoyment of the picture. For my part, I have someone describe what is going on *sotto voce* so other viewers are not disturbed. I do not know much about deafness so I cannot mention specific alternatives for them, but they would probably agree with me that there are compensations in a silent world. The human spirit always finds something. . . .

My main objection, however, to this concession also applies to any concessions for the handicapped—concessions draw us apart. The desire of most handicapped persons is to be integrated into "normal" society, to be accepted as a person. This is made just that much more difficult with concessions setting us apart, just as discrimination sets us apart. Concessions are a condescending, well-intentioned form of discrimination, but discrimination that nevertheless assumes that we are less capable.

But if the concession goes through, I still have the satisfaction of knowing that I do not *have* to go along with it. Regardless of what happens, if I want to see *The Godfather*, I will pay the full price.

(Miss) Peggy Walsh
Cincinnati, Ohio



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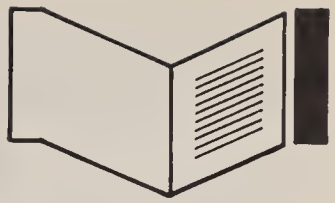
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Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind prepared by Mary Maie Richardson, chief librarian.

Seeing Better With Blindfolds, by Kay E. Aylor. *American Education* (Available from Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402), Vol. 8, No. 4, May 1972, pp. 35-38, illus. 50¢ As part of a new teachers program at the University of Northern Colorado at Greeley, students are required to use a blindfold (one hour per day for ten weeks) in a variety of situations and environments. Graduates of the program will be "dual competency teachers for the blind," qualified to teach mobility skills as well as academic subjects.

Blank Faces, by Ruth Spence. *New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6 AA, England), Vol. 56, No. 661, May 1972, pp. 115-18. Personal narrative by a blind woman concerning difficulties experienced in communicating with the sighted public. Reprinted from *New Society,* January 20, 1972.

Visual Impairment, Partial-Sight and the School Psychologist, by Charles Margach and Kate Condit Kern. *Journal of Learning Disabilities* (5 North Wabash Avenue, Chicago, Illinois 60602), Vol. 2, No. 8, August 1969, pp. 407-14. The authors discuss special techniques in both administration and interpretation of the Wechsler Intelligence Scale for Children when it is used in the testing of partially-sighted children.

A Workshop—A Way to Independence, by Jack Hixson. *Tennessee Public Welfare Record* (Department of Public Welfare, 410 State Office Building, Nashville, Tennessee 37219), Vol. 35, No. 4, August 1972, pp. 66-68. The story of the Volunteer Blind Industries, Inc., Morristown, Tennessee, a project of the Lions Clubs.

". . . And Then What Happened?" by Joan Bel Geddes. *UNICEF News* (U. S. Committee for UNICEF, 331 East 38th Street, New York, New York 10016), Issue 72, July 1972, pp. 17-18, illus. Report on a program of integrated education for visually handicapped children in Ceylon, started in 1969 by the government of Ceylon with the assistance of UNICEF and the American Foundation for Overseas Blind.

Dual Nature Trails Use Both Braille and Printed Markers for Use of Visually Handicapped Campers, by Antonio J. Spinelli and James E. Earley. *Camping Magazine* (Galloway Corporation, 50 Mountain Avenue, North Plainfield, New Jersey 07060), Vol. 44, No. 3, March 1972, p. 19. Brief description of the construction of two nature trails at the Hale Camping Reservation, Westwood, Massachusetts, designed to serve both visually handicapped and sighted persons.

Evaluation of Sensory Aids for the Visually Handicapped. A report on a conference sponsored by the Subcommittee on Sensory Aids, Committee on Prosthetics Research and Development of the Division of Engineering, National Research Council, held at the National Academy of Sciences, Washington, D.C., November 11-12, 1971. Washington, D.C., National Academy of Sciences, 1972, v + 198p., illus. Scope of the conference was limited to those mobility and reading aids developed to the point of being considered for widespread testing and potential distribution. Presentations were made on the following devices: Optophone (Battelle Memorial Institute); Visotoner, Visotactor, Cognodictor, and Digitactor (Mauch Laboratories); Optacon (James C. Bliss); Synthetic Speech and Optical Character Recognition (Haskins Laboratories); Lexiphone (Michael P. Beddoes); VA-Bionic Laser Cane (Bionic Instruments); Russell Pathsounder (Lindsay Russell); Ultrasonic Binaural Sensory Aid (Leslie Kay); and Dearing Light-Sensing Typhlocane (L. M. Dearing Associates). A limited number of copies of the proceedings are available from the Committee on Prosthetics Research and Development, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

Manifest Anxiety and Self-Concept: A Comparsion of Blind and Sighted Adolescents, by John Mitchell Williams. University Microfilms, Inc. (300 North Zeeb Road, Ann Arbor, Michigan 48106). Doctoral dissertation, University of Maryland, 1971, vii + 178p. Order #72-1697, $10.00. Study of 32 blind students from grades 9, 10, and 11 matched with a group of sighted students to compare their self-reports as to self-concept, self-acceptance, ideal-self, self-adjustment, and manifest anxiety.

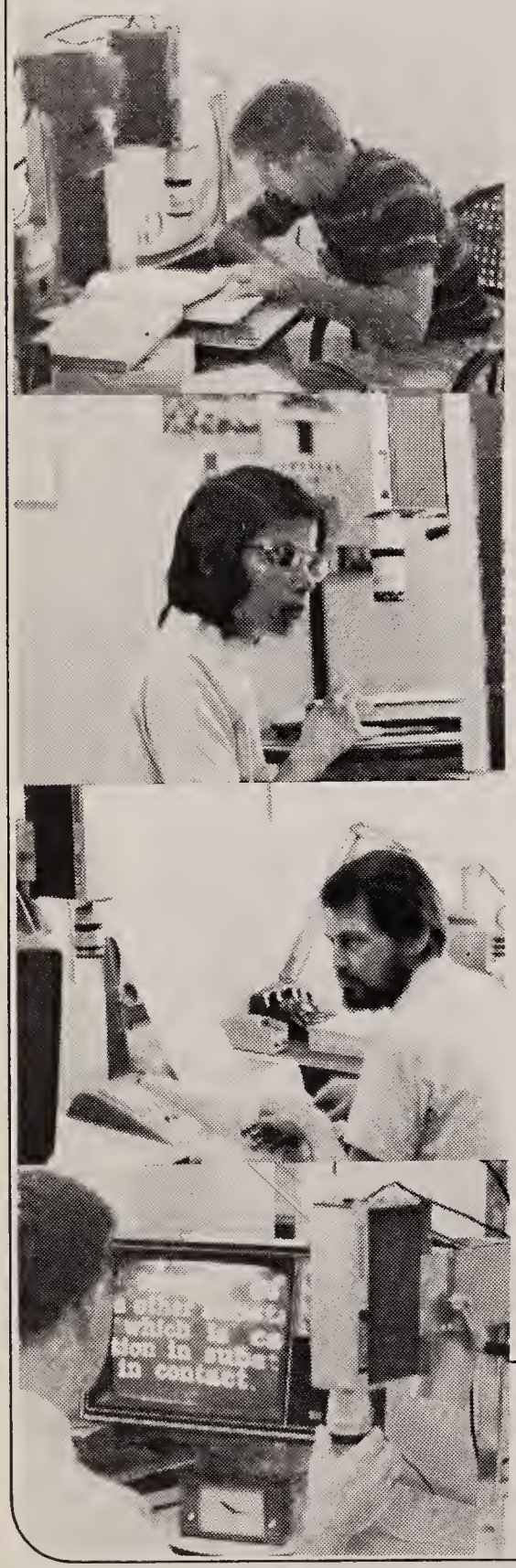
The Guidance of Exceptional Children: A Book of Readings, edited by John Curtis Gowan et al. 2nd ed. David McKay Company, Inc. (750 Third Avenue, New York, New York 10017), 1972, xi + 465p. $4.95. A collection of reprinted articles and speeches. Chapter Six (pp. 307-36) is entitled "The Blind Child."

Eye Examination Findings Among Children, United States. National Center for Health Statistics, Health Services and Mental Health Administration, U. S. Public Health Service. *Vital and Health Statistics* (available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Series 11, No. 115, DHEW Publication No: (HMS) 72-1057, June 1972, iv + 47p. 50¢ Report is subtitled "Eye examination findings, phoria test results, visual acuity, color deficiency, the history of eye trouble, and their relationship among children 6-11 years of age." The data analyzed is from the Health Examination Survey of 1963-65.

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ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind *prepared by the editors.*

Agency Administration

Morality and the Politics of Practice, by Harold Lewis, D.S.W. *Social Casework* (Family Service Association of America, 44 East 23rd Street, New York, New York 10010), Vol. 53, No. 7, July 1972, pp. 404-17. Dr. Lewis, dean of the Hunter College School of Social Work, City University of New York, sees a deterioration of the humane context of professional practice and a consequent lessening of trust. "If this destruction of trust is allowed to continue, it will, in time, no longer be possible to engage in an ethical social work practice. Instead, a dehumanized welfare service, void of a caring human interface will take its place." In response to this situation, he offers two sets of practice principles (one dealing with fair and equal access to service and one with distributive justice) and discusses the importance of the social context of the human service professions.

Directories, Catalogs, Lists

Instant Learning is a free catalog of educational courses on cassette tape recordings available from Automated Learning, Inc. (1275 Bloomfield Avenue, Fairfield, New Jersey 07006). The taped courses, which cost $9.98 each, include foreign languages, academic subjects, recreational skills, self-improvement plans, and others. Cassette recorders and accessories are also available.

1972 Catalog of Cassette and Tape Recordings, from the Center for the Study of Democratic Institutions (P.O. Box 4446, Santa Barbara, California 93103). A free descriptive catalog of 300 recorded discussions sponsored by the Center with outstanding leaders from many fields participating. Topics include international relations, government, sociology, ecology, science and technology, education, the human condition, art, religion, the media, and labor. Most of the recordings sell for $7.50. These cassettes and tapes are eligible under ESEA Titles I, II, III.

Education

Advancing Career Education, by Marie Y. Martin. *American Education* (U.S. Office of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202, Vol. 8, No. 7, August-September 1972 pp. 25-30. An article by the Office of Education's director of community college education in which she reports on programs in six representative community colleges to illustrate the increased interest in the career education concept.

Career Education—The Most Exciting Trend in Schooling Today, by Sidney P. Marland, Jr., *Parents' Magazine and Better Family Living,* Vol. 47, No. 9, September 1972, pp. 58-59, 107-8. The commissioner of the U.S. Office of Education explains the principles of career education and the four models (school-based, employer-based, home-based, and residential) within which it can be effectively used for elementary and secondary school children, adults, and disadvantaged families.

Medical Sciences

Childhood Blindness in Cyprus, by S. Merin, M.D., A. G. Lapithis, M.D., D. Horovitz, and I. C. Michaelson, M.D. *American Journal of Ophthalmology* (Ophthalmic Publishing Co., 160 East Grand Ave., Chicago, Illinois 60611), Vol. 74, No. 3, September 1972, pp. 538-42. Report of examinations of present and past students of the schools for the blind in the Greek community of Cyprus in which it was found that 79 percent of all childhood blindness there is caused by hereditary diseases (about half being autosomal recessive). Reprints available from S. Merin, M.D., Department of Ophthalmology, Hadassah University Hospital, Jerusalem, Israel.

The Neurophysiology of Binocular Vision, by John D. Pettigrew. *Scientific American* (415 Madison Avenue, New York, New York 10017), Vol. 227, No. 2, August 1972, pp. 84-95. The ability of certain mammals, including man, to visually locate objects in the third dimension is traced to the selective activity of single binocular nerve cells in the visual cortex of the brain.

The Prevalence of Chronic Simple Glaucoma in the United States, by Harold A. Kahn. *American Journal of Opthalmology* (Ophthalmic Publishing Co., 160 East Grand Street, Chicago, Illinois 60611), Vol. 74, No. 2, August 1972, pp. 355-59. A critical evaluation of prevalence studies in general and of those particularly concerned with chronic simple glaucoma. The author concludes that the two percent estimated prevalence of glaucoma may be a substantial overstatement.

Pamphlets

Clear Print is a pamphlet containing the full text of a panel discussion on "The Menace of Small Print" and papers on lighting for the partially sighted, the design of a school for the partially sighted, and library services for the visually handicapped. Single copies are available for one dollar from the Publications Department, Library Association, 7 Ridgmount Street, Store Street, London, WC1E 7AE, England.

Periodicals

Get Smart is a bimonthly newsletter published by the American Nursing Home Association (Suite 607, 1025 Connecticut Avenue, N.W., Washington, D.C. 20036) which reviews books, audio visual material, and courses of interest to nursing home administrators and the supportive personnel in health care facilities.

LJ/SLJ Previews: News and Reviews of Non-Print Media is a new periodical (September 1972 was the first issue) in which the news and review columns for non-print materials in *Library Journal* and *School Library Journal* have been combined and expanded to cover all media and subject areas for pre-school through adult audiences. The signed reviews are by teachers, librarians, a/v specialists,

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IMC directors, and subject specialists. The magazine is to be issued nine times a year (monthly, September through May). Three of the issues each year (September, January, and May) will include the Audiovisual Guide, non-critical advance listings of non-print media for all audiences (including films—8 mm and 16 mm sound, 8 mm silent; sound and silent filmstrips; transparencies; slides; discs; tapes; prints; maps; charts; academic games; and kits). Feature articles will deal with new trends and old controversies, provide coverage of hardware, and include well-researched discographies, filmographies, and cross-media subject compilations. Published by R. R. Bowker Company (1180 Avenue of the Americas, New York, New York 10036), a Xerox Education Company. Subscriptions: $2.50 per year for subscribers to *Library Journal* and *School Library Journal;* all others, $7.50 one year, $12.00 two years, $16.50 three years.

Research

Research and Demonstration: The Crisis of Legitimacy, by John H. Noble, Jr., Ph.D. *Rehabilitation Record* (Rehabilitation Services Administration, U.S. Social and Rehabilitation Service; available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Vol. 13, No. 5, September-October 1972, pp. 6-8. Dr. Noble, director of the Research and Evaluation Staff, Office of Planning and Policy Development, RSA, analyzes the present crisis faced by researchers (after more than a decade of high priority for support of basic and applied research) and suggests ways in which they can develop symbiotic relationships with service agencies and programs.

The Research Role in a Residential Treatment Center, by Lawrence E. Schlesinger, Ph.D., and Nguyen Nhan, Ph.D. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois 60612), Vol. 33, No. 7, July 1972, pp. 194-97. A summary of the experiences of the research unit at the National Children's Rehabilitation Center, Leesburg, Virginia, and a proposed model of the research task in a rehabilitation center by the Center's director of research and its research psychologist.

Research Utilization in Rehabilitation Facilities: Proceedings of an International Conference, edited by Ralph N. Pacinelli. International Association of Rehabilitation Facilities (5530 Wisconsin Avenue, Suite 955, Washington, D.C. 20015). 345p. $2.00. The conference, held in June 1971, was to provide a forum for the exchange of research and demonstration findings in six major areas of vocational rehabilitation—support personnel, facility development and utilization, community organization, vocational assessment, the homebound, and cost effectiveness.

Vocational Rehabilitation

Disability and Handicap and Community Responsibility, by Sol Richman. *Public Welfare* (American Public Welfare Association, 1313 East 60th Street, Chicago, Illinois 60637), Vol. 30, No. 3, Summer 1972, pp. 59-64. An analysis of the nature and roles of individuals, the community and its agencies, and their inter-relationship and interdependence in the human services continuum. It is suggested that planning and coordination could be greatly enhanced by setting up an Office for Coordination of Human Services in each state and by developing community advisory committees at all levels. The author, formerly director of planning and coordination, New York State Office of Vocational Rehabilitation, is now on the staff of the U.S. Social and Rehabilitation Service.

The Role of Facilities in Training Rehabilitation Personnel, edited by James E. Trela. Vocational Guidance and Rehabilitation Services (2239 East 55th Street, Cleveland, Ohio 44103). viii + 84p. Free. Abstracts of papers and recommendations from a conference sponsored by Vocational Guidance and Rehabilitation Services and the U.S. Rehabilitation Services Administration and chaired by Robert Dubin, Ph.D., professor of sociology and administration, University of California at Irvine. Papers deal with learning theories and training; training for the delivery of services within a rehabilitation facility and a state agency; the roles of state agencies, facilities, and higher education in training rehabilitation personnel; and rehabilitation training of the future. A limited number of the complete papers are also available, while the supply lasts, from VRGS or from Division of Manpower Development, Rehabilitation Services Administration, Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare, Washington, D.C. 20201.

Vocational Rehabilitation: Profession and Process, edited by John G. Cull, Ph.D., and Richard E. Hardy, Ed.D. American Lecture Series, no. 831. Charles C Thomas (301-327 East Lawrence Avenue, Springfield, Illinois 62703). xix + 547p. $18.50. A collection of 29 papers divided into six parts: introduction to vocational rehabilitation, the rehabilitation practitioners, the rehabilitation process, the rehabilitation practitioner in a work setting, the client in the rehabilitation process, and working with other professionals in the rehabilitation process. Includes "Providing Counseling Services to Blind and Severely Visually Impaired Persons," by Richard E. Hardy (chapter 20). Reviewed in *Journal of Rehabilitation,* July-August 1972, p. 13, by Dalton Potter.

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News in Brief

■ S.J. Res. 202 a joint resolution authorizing the President to call a White House Conference on the Handicapped was reported by the Senate Committee on Labor and Public Welfare on August 17 and was passed by the Senate on August 18. The resolution does the following: 1) authorizes and requests the President to call a White House Conference on the Handicapped within two years of enactment of the resolution; 2) requires the submission of a report to the President within 120 days after the conclusion of the Conference; 3) requires the secretary of the Department of Health, Education, and Welfare to plan and conduct the Conference and submit recommendations of the Conference to the President and to the Congress within 90 days after he transmits the report of the Conference to the President; 4) requires broad participation in the Conference, including handicapped individuals; 5) requires the secretary of HEW to employ handicapped individuals in staff and other positions related to the Conference; 6) authorizes the secretary to assist the states, including financial aid, to conduct preliminary conferences; 7) directs the secretary to establish an Advisory Committee to the White House Conference on the Handicapped composed of 28 individuals of whom not less than ten shall be handicapped or parents of handicapped persons; and 8) authorizes an appropriation of $2 million to cover expenses related to the White House Conference and preliminary state conferences.

■ Project FIND, a nationwide federal effort to locate elderly persons eligible for food stamps, surplus food, and other federal programs, was begun in August. Headed by Arthur S. Flemming, special consultant to the President on problems of the aging, it is the first such effort aimed at reaching needy, older persons entitled to federal aid. Leaflets describing eligibility requirements were mailed in August with 19 million Social Security checks addressed to persons 65 years old or older. Prepaid post cards were enclosed for persons needing help in determining eligibility. Those who mail the cards are to receive a personal visit by a volunteer of the American Red Cross.

In explaining the need for the project, Mr. Flemming said that "tens of thousands, and possibly hundreds of thousands" of needy older persons were "so lost to society" that they were unaware of government and private resources available to assist them. Many, he said, suffer from malnutrition and some are probably on "the verge of starvation."

■ The first meeting of the Low Vision Clinical Society, a society of ophthalmologists who run low vision clinics or who are interested in the field, was held September 24, in Dallas, Texas. This founding session follows a year of intensive work on the part of members of the Lighthouse Low Vision Services, New York Association for the Blind, New York City, the agency which pioneered in setting up the first ophthalmologically oriented low vision clinic in the country in 1953.

The establishment of the society was formally approved by the American Academy of Ophthalmology and Otolaryngology at its annual convention in Dallas that same week. The charter members, from all over the United States and Canada, are headed by Eleanor E. Faye, M.D., medical director of the Lighthouse Low Vision Services. Membership will include active and honorary categories as well as a special category for persons who have contributed in the field of optics and opticianry.

■ A year ago the Regional Library for the Blind and Physically Handicapped, Braille Institute of America, Los Angeles, installed a small IBM System/3 computer to expedite the filling of its readers' orders for talking books. The system allows librarians to determine instantly which of the 62,000 books are on the shelves and which are checked out. By placing a list of books desired by a reader in the computer, along with his name, address, and telephone number, new books can be sent to him almost automatically. When he returns a book, the computer automatically updates the library's inventory and then checks to see if the selection at the top of the reader's list is on hand. If it is, the System/3 prints a card with the book number and the reader's name and address to serve as a mailing label. A library clerk then locates the book, attaches the label to the container, and sends it on its way. A priority code built into the system program also enables a reader to request that any new best-seller be shipped to him before the book at the top of his selection list. This automated system has worked so well with talking books, according to Library Supervisor Phyllis Cairns, that plans are being made to add cassette recordings, braille books, and recorded periodicals to it.

■ Florida International University, Miami, has been presented the International Symbol of Access by the Dade Employ the Handicapped Committee for designing special features in the University's main building that aid the disabled, both students and employees.

Dan D'Oliveira, director of physical planning, who accepted the plaque for the University, followed the American Standards Association guidelines in planning the main building. Called Primera Casa (First House), it has a ramp at the front entrance, doorways wide enough for wheelchairs, doors that open easily, and elevators accessible to handicapped persons.

In addition, the building has at least one special rest room for handicapped persons, parking spaces near the building which provide room for transfer from automobiles to wheelchairs, water foun-

tains and public phones that are within vertical reach of persons in wheelchairs. and handrails on the staircases. The University also has a braille-electronic probe switchboard system which can be used by blind operators. The switchboard has been dedicated in memory of Leo Axelrod, a Miami businessman who was a member of the World Committee to Hire the Handicapped.

■ The Division for the Blind and Physically Handicapped, Library of Congress, recently contracted with Joseph W. Wiedel, Ph.D., a cartographer and professor of geography at the University of Maryland, to design a mobility and orientation map to help the Division's patrons in getting from the Main Building in downtown Washington, D.C., to the Division headquarters at the Taylor Street Annex. Dr Wiedel designed two maps, both in large print and braille; one outlines the bus route between the two locations and pinpoints the Columbia Lighthouse for the Blind, while the other is a detailed map of the immediate neighborhood of the Division, showing building locations, bus stops, and connecting sidewalks. The maps, which are embossed and printed on a hard plastic sheet, are available on loan to readers planning to visit the Division or the Library of Congress. Copies of the maps have also been sent to the regional libraries for the blind and physically handicapped throughout the country.

■ A five-page braille menu for the blind patrons of the Yankee Silversmith Inn, Wallingford, Connecticut, has been introduced by the innkeepers, Robert F. Meyers and his son Robert A. Meyers. "We noticed an article in the restaurant trade press," Meyers *fils* recalls, "which told of Brodecky's Restaurant in Lincoln, Nebraska, where they recently offered their menu in braille. Since we already have a number of blind guests, we decided that this type of menu would be a great help here as well."

The menus, spiral bound in clear plastic jackets and listing appetizers, lunch, dinner, and dessert selections, were transcribed by volunteers of the Connecticut Braille Association of the Westport Women's Club, Westport, Connecticut. The Inn has had rest room facilities for the handicapped since 1971 and an easy access ramp outside since 1966. Dog guides, the innkeepers add, have always been welcome at the 19-year-old landmark.

Appointments

■ Virginia Commission for the Visually Handicapped, Richmond: **Jarrell L. Wrght,** assistant supervisor of rehabilitation teachers.

■ American Council of the Blind (by election): president, **Floyd Qualls** (director, Oklahoma League for the Blind); first vice-president, **Bradley Burson;** second vice-president, **Billie Elder;** secretary, **Cathy Skivers;** treasurer, **Ed Miller.**

■ Overbrook School for the Blind, Philadelphia: **Mary Anne Sullivan, Ph.D.,** director of research projects.

■ New York Institute for the Education of the Blind, The Bronx, New York: **Roger C. Walker,** acting director.

■ New York Association for the Blind, New York City: **Avodah K. Offit, M.D.,** psychiatric consultant; **Barbara Mates, Ph.D.,** educational director, Child Development Center for Visually Impaired Children.

■ Minneapolis Society for the Blind: **Arnold C. Moe,** director, Industrial Divison; **Richard Larson,** mobility specialist; **Robert Du Charme,** occupational skills instructor.

Awards

■ New York Association for the Blind, New York City; The Lighthouse Award for Distinguished Service: **Charles L. Schepens, M.D.,** Boston, president, Retina Foundation; founder and director, Retina Services; associate clinical professor of ophthalmology, Harvard Medical School.

■ Blinded Veterans Association, Outstanding Service Award: **Russell C. Williams,** chief of blind rehabilitation, Veterans Administration, Washington, D.C.

■ American Academy of Ophthalmology and Otolaryngology, Award of Merit: **Eleanor E. Faye, M.D.,** director, Lighthouse Low Vision Services, New York Association for the Blind, New York City.

Coming Events

December 14-19 American Academy of Optometry, Annual Meeting, New York City.

December 17-20 Gerontological Society, 25th Annual Scientific Meeting (in conjunction with the American Geriatrics Society), San Juan, Puerto Rico.

1973

January 17-20 American Optometric Association, National Optometric Conference Week, San Antonio.

January 28-February 3 American Library Association, Midwinter Meeting, Washington, D.C.

February 11-14 Council for Exceptional Children and American Vocational Association, Special Conference on Career Education for Exceptional Children and Youth, New Orleans.

February 25-March 3 American Society of Contemporary Ophthalmology, Annual Meeting, Miami Beach, Florida.

April 22-28 Council for Exceptional Children, 51st Annual International Convention, Dallas.

May 3-7 Association for Research in Vision and Ophthalmology, Annual Spring Meeting, Sarasota, Florida.

May 7-10 National Braille Association, National Conference, San Francisco.

May 27-30 Medical Library Association, Kansas City, Missouri.

May 27-31 Natonal Conference on Social Welfare, 100th Annual Forum, Atlantic City, New Jersey.

May 28-30 American Ophthalmological Society, 109th Annual Meeting, Hot Springs, Virginia.

May 28-31 American Orthopsychiatric Association, 50th Annual Meeting, New York City.

June 10-14 Special Libraries Association, Pittsburgh.

June 27-30 American Optometric Association, San Francisco.

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